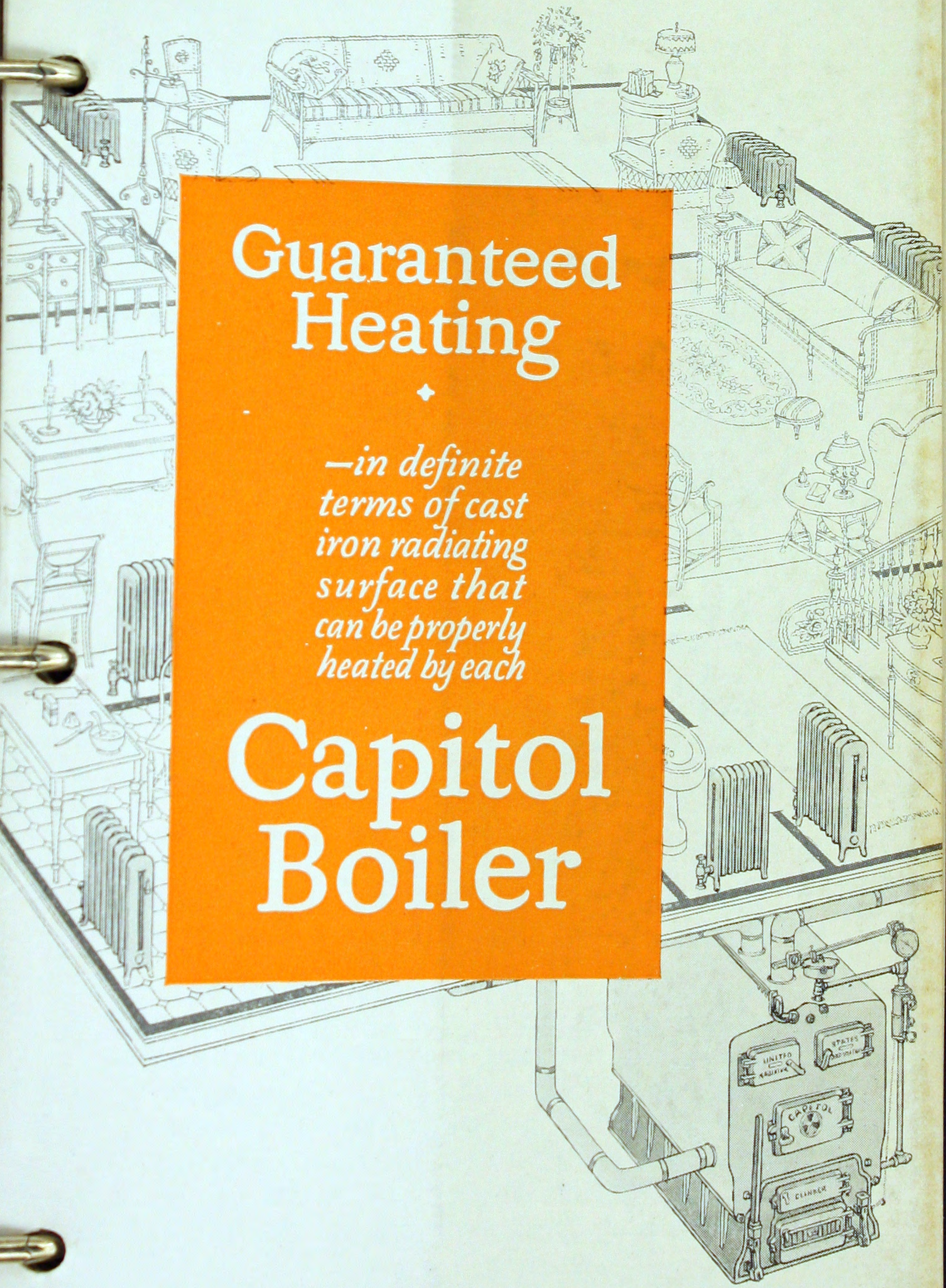
# Guaranteed Heating

*—in definite terms of cast iron radiating surface that can be properly heated by each*

# Capitol Boiler



# Clearing Away the Smoke Screen of Confusion about Boiler Ratings

EVERY thinking architect, engineer, and heating contractor has known that something would have to be done about boiler ratings.

Some manufacturers rate their boilers conservatively. Others make extravagant claims. No two determine ratings on the same basis.

Associations of heating engineers and contractors, have tried to protect themselves. They have fixed certain standards by which published ratings should be judged. But we find the standards in one city conflicting with those of another.

Boiler ratings consequently have come to mean little. They cannot be used for accurate comparison between different makes of boilers. They are an uncertain measure of the proper size of boiler required for a certain building. This condition of affairs has been decidedly unfair to responsible manufacturers and most

unsatisfactory to architects, engineers, contractors, and building owners.

The United States Radiator Corporation has now put an end to all the confusion.

In choosing the correct size of boiler for any building there is one, and only one, consideration: will it properly heat the required number of square feet of radiation?

The net cast iron radiating surface that each type and size of Capitol Boiler will heat adequately has been definitely determined and is officially published in this book.

And we have gone still farther. *Capitol capacities are guaranteed in writing.* Only the advanced design, the dependability and mechanical accuracy of Capitol Boilers could make possible such a positive assurance of heating capacity.

There need be no further uncertainty. No longer need the architect wonder which boiler to specify. Never again need the engineer or heating contractor base his selection on unsure rating information. And the owner is certain of satisfaction.

When the needed radiating surface is known and contributing factors checked, the selection of the proper Capitol Boiler becomes simple, sure, safe.

# GUARANTEE

THE United States Radiator Corporation will give with each CAPITOL BOILER sold an absolute guarantee in writing that it will properly heat its full published amount of direct cast iron radiation provided only that the boiler is connected to a correctly installed system and that the recognized standard requirements listed herein are followed. Should any CAPITOL BOILER not meet these conditions, the additional capacity necessary will be supplied without charge by the

*UNITED STATES RADIATOR CORPORATION*

# Standard Requirements

A guarantee of size of boiler for specified amount of Direct Cast Iron Radiation must be based upon certain standard requirements.

***Direct Cast Iron Radiation:*** It is assumed that Direct Cast Iron Radiation will emit 240 B. t. u. per hour for steam, and 150 B. t. u. per hour for water, therefore, all radiation must be reduced to this heat emission basis.

The amount of radiation required on this basis shall be computed as outlined in our catalog, or from methods adopted by either the Heating and Piping Contractors' National Association, or the American Society of Heating and Ventilating Engineers.

***Corrections:*** Under ordinary conditions approximate corrections will reduce the following loads to their equivalent of Direct Cast Iron Radiation:

Direct-indirect, multiply by 1.25
Indirect, multiply by.....1.50

Blast Coils—Determine condensation in pounds of steam per hour and multiply by 4.

Domestic Hot Water Supply—Storage tank capacity in gallons—for steam multiply by 2; for water multiply by 3.2.

***Allowances:*** The boiler size guaranteed for direct cast iron radiation includes

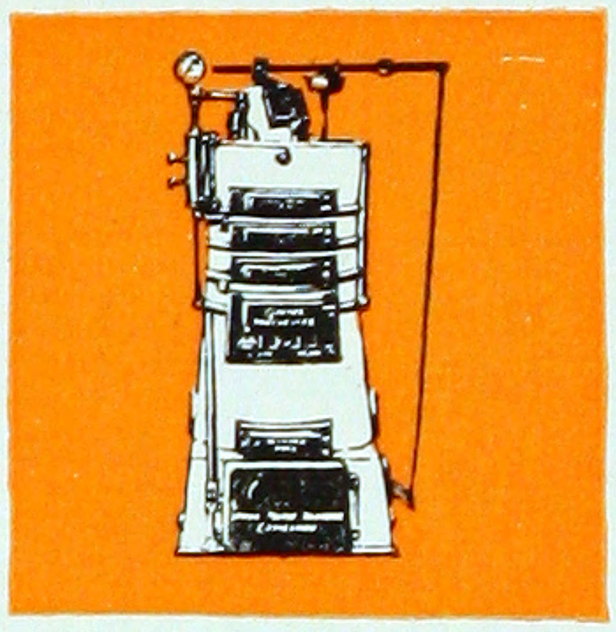
allowances for heat loss of piping system and peak load. Where the actual surface in square feet of the piping system exceeds 25% of the Direct Cast Iron Radiation for steam, or 35% for water, additional allowances shall be made for the extra surface.

***Draft:*** The boiler shall be attached to a chimney providing sufficient draft to consume with proper combustion the required amount of fuel per hour.

***Fuel:*** The size of boiler recommended is based upon the use of a free-burning coal not smaller than nut size and having a heat value of at least 13,000 B. t. u. When the coal to be used has a heat value less than 13,000 B. t. u., the Direct Cast Iron Radiation shall be multiplied by the factor corresponding to heat value of the coal.

| HEAT VALUE OF COAL IN B. T. U. PER POUND | FACTOR |
|---|---|
| 13,000 | 1.00 |
| 12,500 | 1.07 |
| 12,000 | 1.14 |
| 11,500 | 1.21 |
| 11,000 | 1.29 |
| 10,500 | 1.37 |
| 10,000 | 1.46 |
| 9,500 | 1.56 |
| 9,000 | 1.67 |
| 8,500 | 1.79 |
| 8,000 | 1.92 |
| 7,500 | 2.06 |
| 7,000 | 2.21 |
| 6,500 | 2.36 |
| 6,000 | 2.53 |

# The Amount of Direct Cast Iron Radiation Each Capitol Boiler Is Guaranteed to Carry

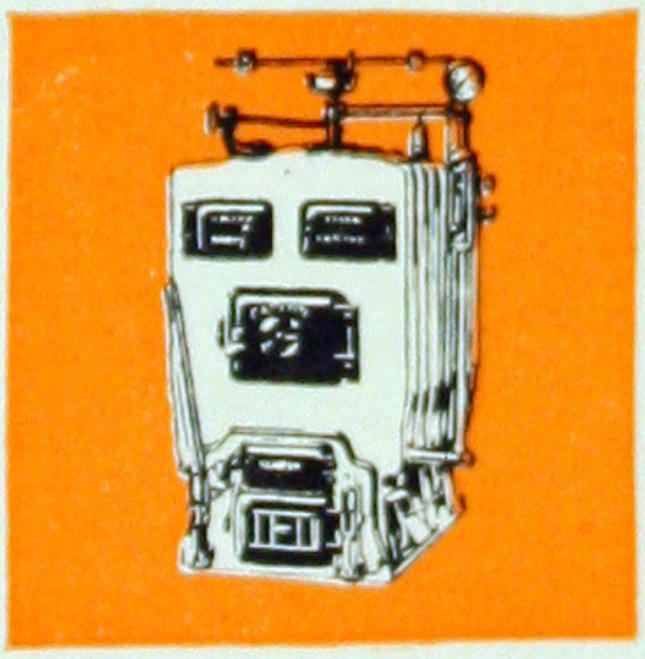


## Capitol Boilers—*Winchester Type*

| BOILER SIZE NO. | GUARANTEED HEATING IN DIRECT CAST IRON RADIATION SQ. FT. | |
|---|---|---|
| | STEAM | WATER |
| 24 | 150 | 250 |
| 25 | 175 | 290 |
| 31 | 200 | 330 |
| 32 | 215 | 355 |
| 33 | 225 | 370 |
| 34 | 230 | 380 |
| 35 | 245 | 405 |
| 36 | 260 | 430 |
| 45 | 320 | 530 |
| 46 | 340 | 560 |
| 47 | 360 | 590 |
| 55 | 370 | 610 |
| 56 | 385 | 635 |
| 57 | 400 | 660 |
| 65 | 475 | 785 |
| 66 | 500 | 825 |
| 67 | 525 | 865 |

## *Winchester Type—Continued*

| BOILER SIZE NO. | GUARANTEED HEATING IN DIRECT CAST IRON RADIATION SQ. FT. | |
|---|---|---|
| | STEAM | WATER |
| 75 | 540 | 890 |
| 76 | 590 | 975 |
| 77 | 640 | 1060 |
| 85 | 650 | 1070 |
| 86 | 700 | 1155 |
| 87 | 750 | 1240 |

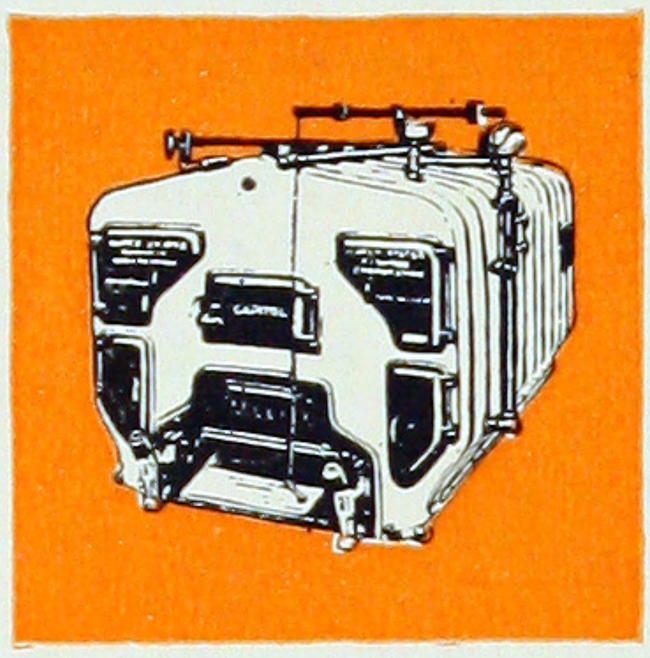


## Capitol Boilers—*Square Type*

| BOILER SIZE NO. | GUARANTEED HEATING IN DIRECT CAST IRON RADIATION SQ. FT. | |
|---|---|---|
| | STEAM | WATER |
| 184 | 200 | 330 |
| 185 | 300 | 495 |
| 186 | 400 | 660 |
| 187 | 500 | 825 |
| 204 | 350 | 580 |
| 205 | 500 | 825 |
| 206 | 625 | 1030 |
| 207 | 750 | 1240 |

*Square Type—Continued*

| BOILER SIZE NO. | GUARANTEED HEATING IN DIRECT CAST IRON RADIATION SQ. FT. | |
|---|---|---|
| | STEAM | WATER |
| 255 | 750 | 1240 |
| 256 | 925 | 1525 |
| 257 | 1125 | 1855 |
| 258 | 1300 | 2145 |
| G276 | 800 | 1320 |
| G277 | 980 | 1620 |
| G278 | 1160 | 1920 |
| G279 | 1350 | 2220 |
| 235 | 1200 | 1980 |
| 236 | 1500 | 2475 |
| 237 | 1800 | 2970 |
| 238 | 2100 | 3465 |
| 239 | 2400 | 3960 |
| 240 | 2500 | 4125 |
| 4106 | 2000 | 3300 |
| 4107 | 2500 | 4125 |
| 4108 | 3000 | 4950 |
| 4109 | 3500 | 5775 |
| 4110 | 4000 | 6600 |
| 4111 | 4500 | 7425 |
| WN276 | 3700 | 6105 |
| WN277 | 4300 | 7095 |
| WN278 | 4900 | 8085 |
| WN279 | 5500 | 9075 |
| WN280 | 6100 | 10065 |
| WN281 | 6700 | 11055 |
| WN282 | 7300 | 12045 |
| WN283 | 7900 | 13035 |
| WN284 | 8500 | 14025 |



# Capitol Boilers—*Smokeless Type*

| BOILER SIZE NO. | GUARANTEED HEATING IN DIRECT CAST IRON RADIATION SQ. FT. STEAM | WATER |
|---|---|---|
| 627 | 1000 | 1650 |
| 727 | 1225 | 2020 |
| 827 | 1450 | 2390 |
| 927 | 1675 | 2760 |
| 1027 | 1900 | 3135 |
| 1127 | 2125 | 3505 |
| 1227 | 2350 | 3875 |
| 740 | 2500 | 4125 |
| 840 | 3000 | 4950 |
| 940 | 3500 | 5775 |
| 1040 | 4050 | 6680 |
| 1140 | 4500 | 7425 |
| 1240 | 4900 | 8085 |
| 1340 | 5400 | 8910 |
| 750 | 4700 | 7755 |
| 850 | 5350 | 8825 |
| 950 | 5850 | 9655 |
| 1050 | 6500 | 10725 |
| 1150 | 7000 | 11550 |
| 1250 | 7650 | 12620 |
| 1350 | 8150 | 13450 |

# UNITED STATES RADIATOR CORPORATION

General Offices, Detroit, Michigan

## BRANCH AND SALES OFFICES

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|---|---|
| *Boston | 136 Federal St. |
| *Portland, Me. | 2 Martyr St. |
| *Springfield, Mas | North Main St. |
| *Providence | Allen's Ave., Foot of Oxford St. |
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| *St. Louis | 4004 Duncan Ave. |
| *Kansas City | 1405 West Eleventh St. |
| *Des Moines | 400 Southwest Ninth St. |
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| *Denver | 2439 Blake St. |
| *Seattle | 1248 First Ave., South |
| *Portland, Ore. | 16th, North and Thurman Sts. |
| *San Francisco | 640 Second St. |

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.—Detroit, Mich. —Dunkirk, N. Y. —Edwardsville, Ill. —Geneva, N. Y.—West Newton, Pa.

CHARLES DANIEL FREY, ADVERTISING, INC., CHICAGO

# Capitol
## *Dependable*
# Boilers
## *Winchester Type*



*United States*
*Radiator Corporation*

*Detroit, Michigan*

# GUARANTEED HEATING

THE United States Radiator Corporation will give with each CAPITOL BOILER sold an absolute guarantee in writing that it will properly heat its full published amount of direct cast iron radiation provided only that the boiler is connected to a correctly installed system and that the recognized standard requirements are followed. Should any CAPITOL BOILER not meet these conditions, the additional capacity necessary will be supplied without charge by the

*UNITED STATES RADIATOR CORPORATION*

# CAPITOL

## DEPENDABLE BOILERS

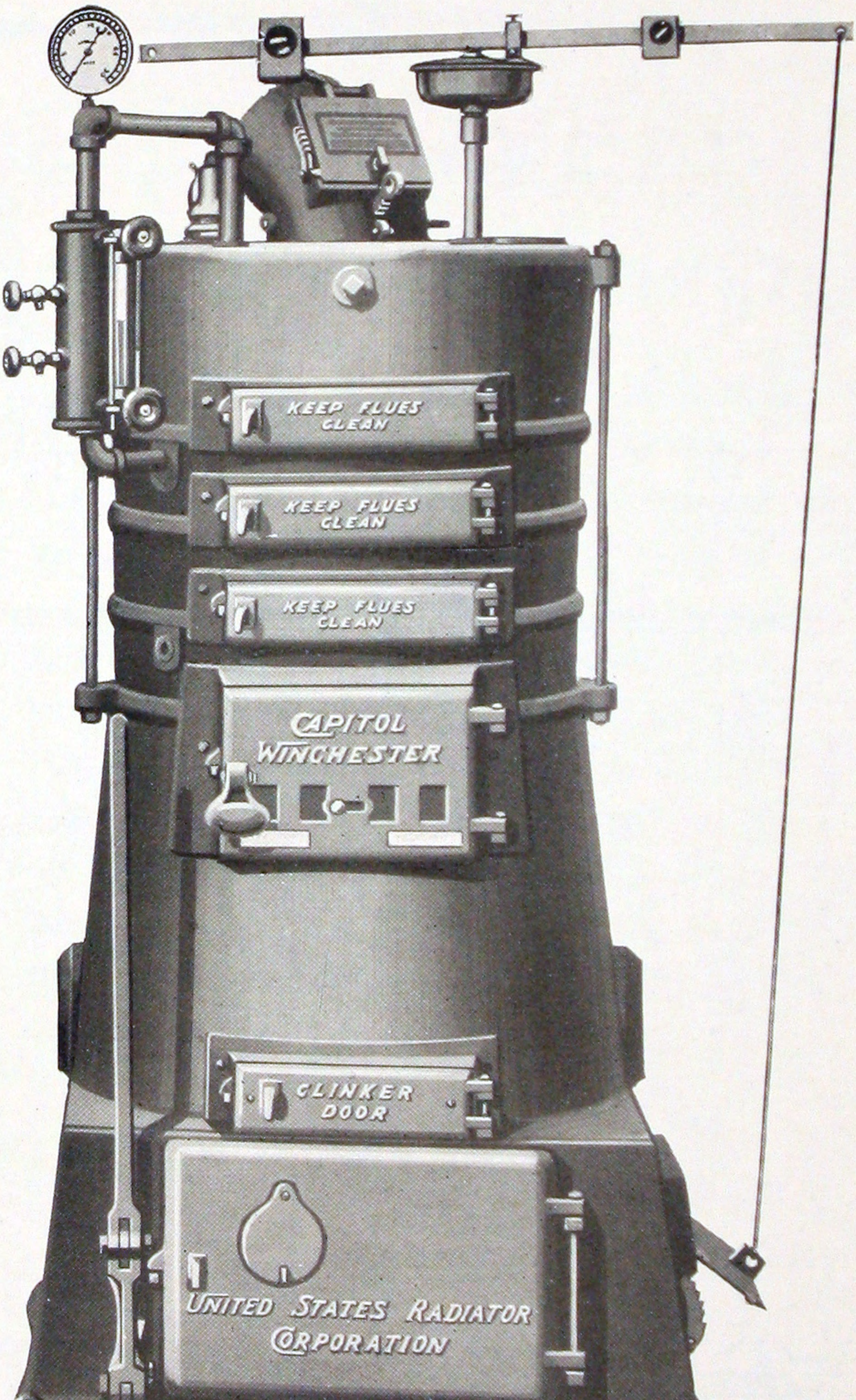
*Winchester Type*

**UNITED STATES RADIATOR CORPORATION**

DETROIT, MICHIGAN

SIX MANUFACTURING PLANTS AND TWENTY-EIGHT ASSEMBLING PLANTS SERVE THE COUNTRY

*For 36 years, builders of dependable heating equipment*




*Capitol Winchester Steam Boiler*

All sizes are equipped with a positive automatic damper regulator, safety valve, steam gauge, and water gauge without extra charge. Firing tools supplied.

# Capitol Winchester Boilers pioneer in every important development

PROGRESS is the first law in the Capitol Testing Laboratories. Perseverance is an outstanding characteristic. Obstacles that seem insurmountable, that would cause some to pause and turn back, are not recognized.

**Capitol Winchester Boilers Win Leadership on Merit**

The objectives have been in the past, are now, and will ever continue to be greater economy of fuel, increased dependability, more uniform heat, and easier operation.

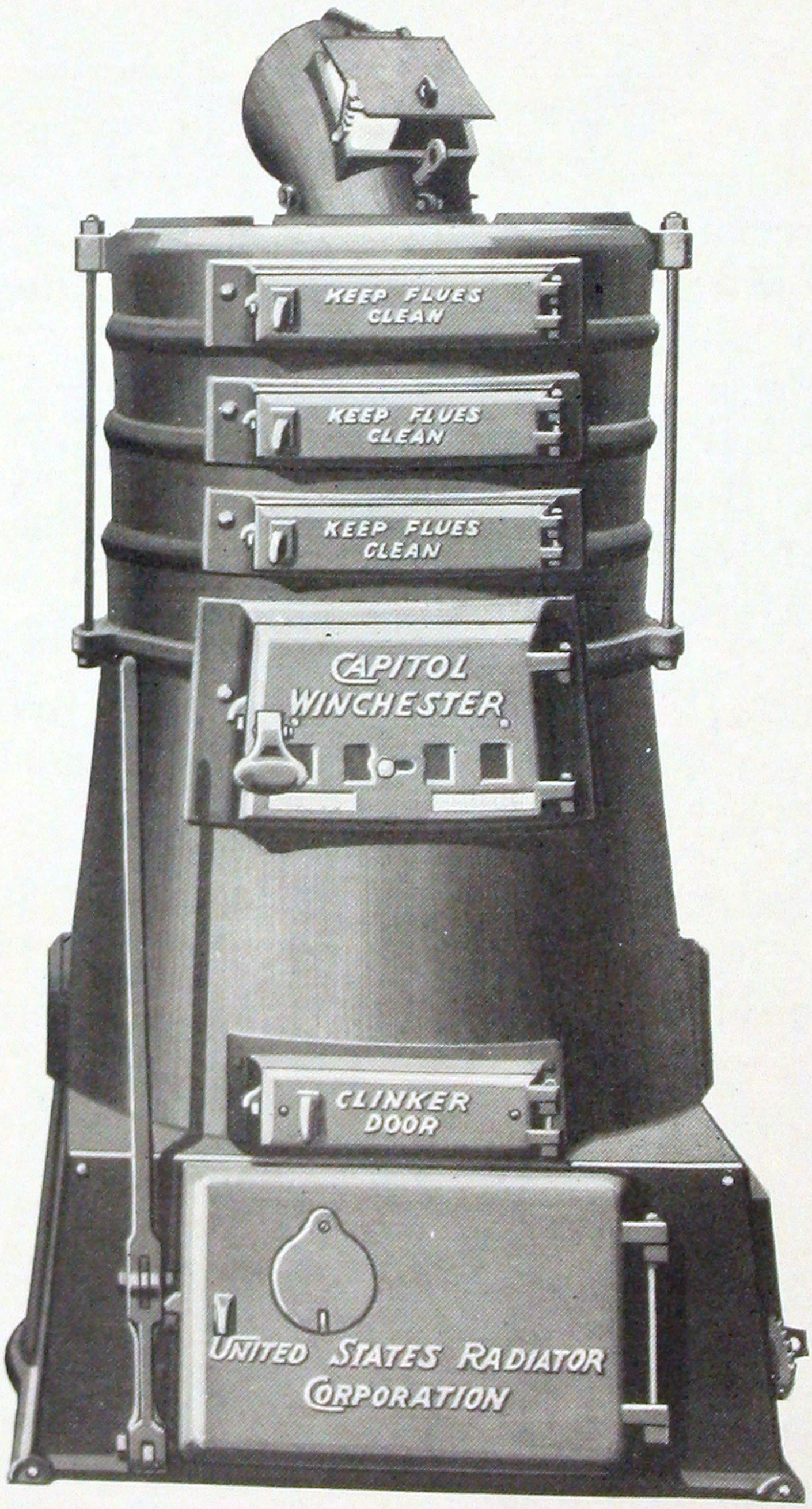
Stride after stride has been taken toward these objectives. Time after time Capitol Winchester Boilers have led in introducing improvements.

Doggedly the search will go on. The progress of the future, the fact that the Capitol Winchester Type will always lead in the round boiler field, is assured by the accomplishments of the past.

Consider this record of achievement: Capitol was first to make the base extra deep. Ashes are more easily removed through the large door. No danger of their piling up against the grate and burning it out.

Capitol placed the draft door at one side, leaving the regulator chain free from the swing of the fire door. Its butterfly damper, balanced on center pivots, is sensitive to control by an automatic regulator.

Capitol pioneered in the rotary duplex grate. It is shaken with amazing ease. The outer ring, slanted




*Capitol Winchester Water Boiler*

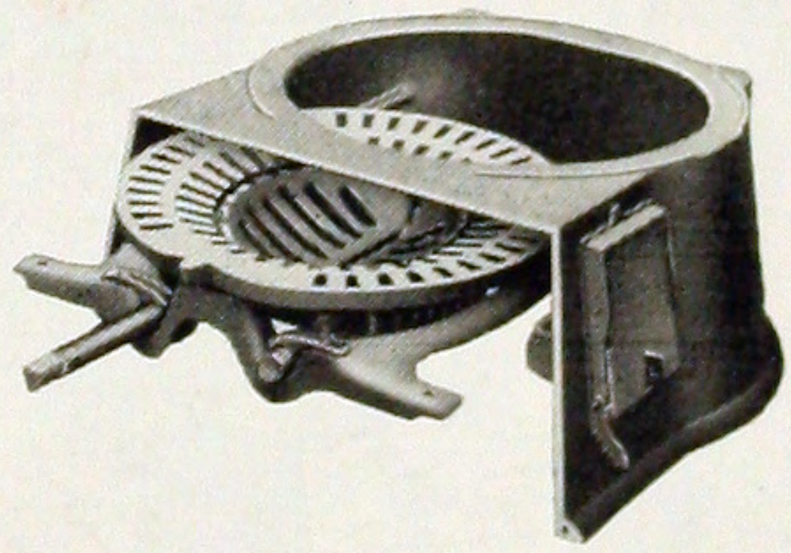
No trimmings supplied with water boilers. Firing tools are furnished without extra charge.

**Efficient, easily operated grates**

toward the middle, rolls on ball bearings, slicing the fire nearest its most effective heating surface. Ash and clinker move into the center basket. Then a quarter turn of shaker handle dumps them.

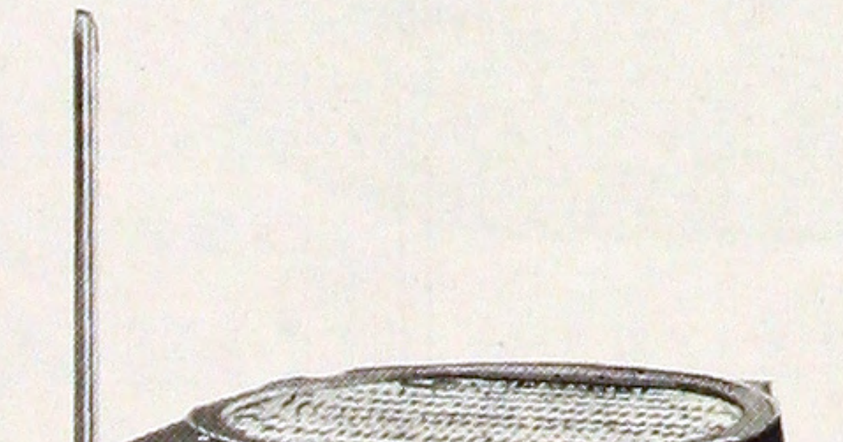
The Capitol flat rocking grate is operated without back-breaking bending. A simple adjustment sets the long shaker handle to rock out the ashes or dump the entire fire. An ingenious pivot for the grate bars eliminates lost motion with its noisy inefficiency.

Capitol cut down the number of trips to the basement to shovel in coal, attained more uniform heat, and provided the means for a perfectly banked fire by making an unusually deep fire pot.



*Rotary-Duplex Grate*

Long ago Capitol discarded the antiquated idea that a corrugated fire pot increases fuel economy. That it has no advantage has been positively proved; and it does have the disadvantage of catching clinkers in the corrugations. The Capitol Winchester fire pot presents a smooth surface to the fire.




*Flat Rocking Grate*

**Crown sheet separate from the fire box**

Capitol introduced the method of forming a crown sheet by an intermediate section instead of casting it integral with the fire pot. Strain is lessened. Possibility of fracture is reduced. And cost of replace-

*Sectional View of Capitol Winchester Boiler*

Notice the roomy base, the deep fire pot, the large combustion chamber and the staggered openings in the intermediate sections which assure long fire travel and maximum heating efficiency.

ment becomes trivial alongside of the expense of an entire new fire pot.

It was Capitol that increased the amount of direct heating surface and bettered combustion by enlarging the space above the fuel bed. In the Capitol Winchester combustion chamber the carbon in the coal gases and the oxygen in the air have ample room to mix thoroughly and ignite. Even the customary overhanging arms have been omitted, adding still more space, assuring the greatest heat per pound of coal.

**Maximum fire travel and heating surface**

The length of the fire travel through staggered openings is long and the amount of heat absorbed by the water before the gases escape is not surpassed in any other round boiler.

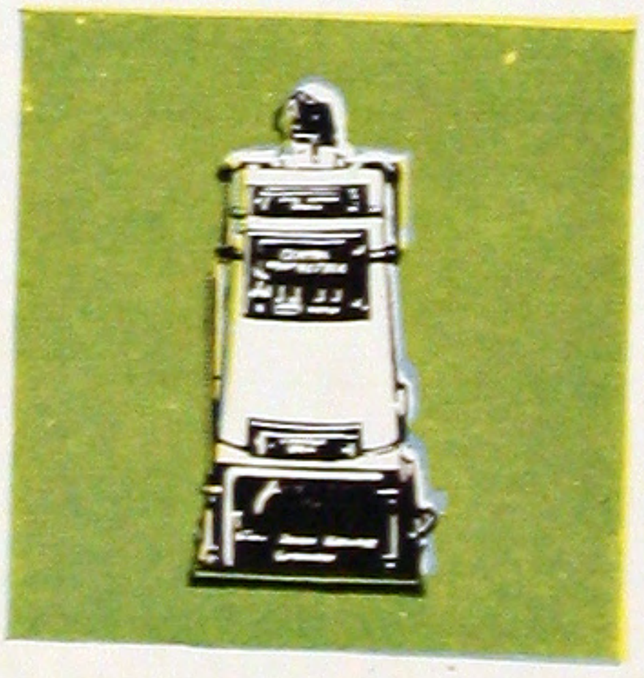
The story of Capitol Winchester economy, dependability and ease of operation could be continued on and on describing feature after feature: the large feed doors machined to fit precisely, the "two-nipple" connections recognized as the tightest known, the exacting care and searching inspection at every point of manufacture. But every advantage is summed up definitely and convincingly by the strongest guarantee of heating satisfaction in the industry.

**Guaranteed Heating**

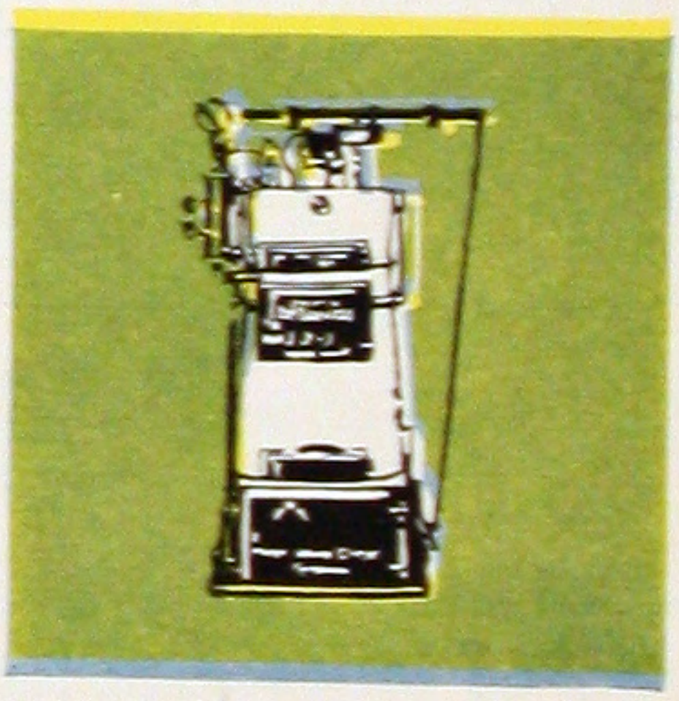
*The cast iron radiating surface that each Capitol Winchester Boiler will properly heat is named in black and white and backed by written assurance that the boiler must make good or we will.*

It would seem that perfection had been reached. Many might be content with the high position Capitol Winchester Boilers now enjoy. But we refuse to be satisfied. We are determined to hold and increase the lead of the Capitol Round Boilers. The aggressive and progressive research and study will continue.

PROPER draft pressure is essential to perfect combustion. High evaporative power requires adequate indirect heating surface. Ideal draft, however, is not always available and when it is insufficient, heating surface must be sacrificed to suit the conditions. Capitol Winchester Boilers are supplied in three groups, each varying only in the number of intermediate sections. Group A should be selected for chimneys that are low, undersized, or far distant, and where there is a sharp bend in the smoke pipe. Group B should be used where average draft is available. Group C for ideal conditions.



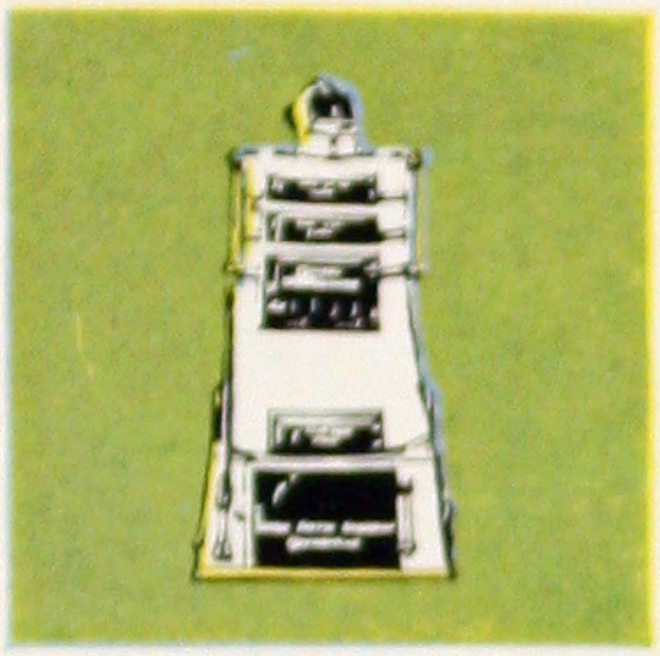
*Group*
A



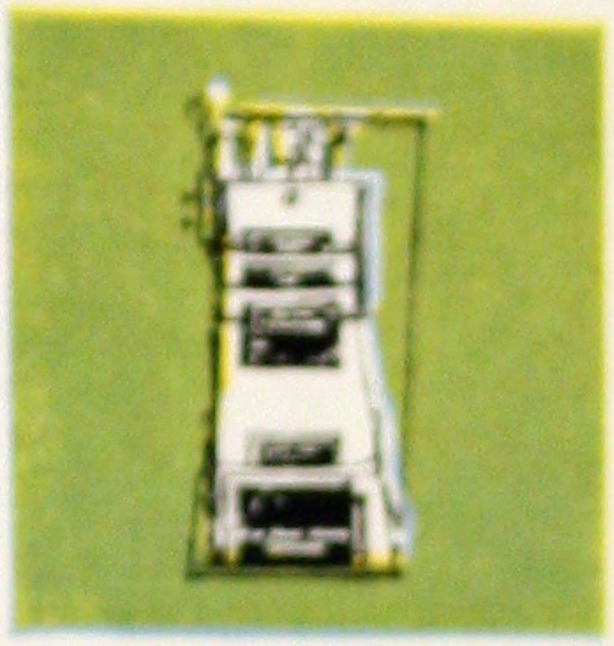
## CAPITOL WINCHESTER BOILERS

| No. | Direct Cast Iron Radiator Loads* Square Feet | | Nominal Grate Diam. Inches | Grate Area Square Feet | Outlets and Inlets | Coal Capacity Lbs. | Total Steam Capacity Lbs. | Height Water Line Inches | Minimum Chimney Height Feet | Minimum Flue Size Inches |
|---|---|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | | | | |
| 24 | 150 | 250 | 17 | 1.58 | 2-2½″ | 113 | 650 | 45 | 30 | 8 x 8 |
| 31 | 200 | 330 | 19 | 1.87 | 2-2½″ | 153 | 770 | 46 | 30 | 8 x 12 |
| 34 | 230 | 380 | 20 | 2.18 | 2-2½″ | 165 | 900 | 46 | 35 | 8 x 12 |
| 45 | 320 | 530 | 23 | 2.76 | 2-3″ | 234 | 1150 | 51 | 40 | 8 x 12 |
| 55 | 370 | 610 | 25 | 3.27 | 2-3″ | 255 | 1400 | 52½ | 40 | 8 x 12 |
| 65 | 475 | 785 | 27 | 3.97 | 2-4″ | 305 | 1800 | 52½ | 45 | 12 x 12 |
| 75 | 540 | 890 | 29 | 4.59 | 2-4″ | 335 | 2100 | 53½ | 45 | 12 x 12 |
| 85 | 650 | 1070 | 33 | 5.94 | 2-4″ | 465 | 2600 | 51 | 45 | 12 x 12 |

NOTE—Boilers of 23″, 25″, 27″, 29″ and 33″ grate diameter are assembled with two intermediate sections between fire pot and dome.

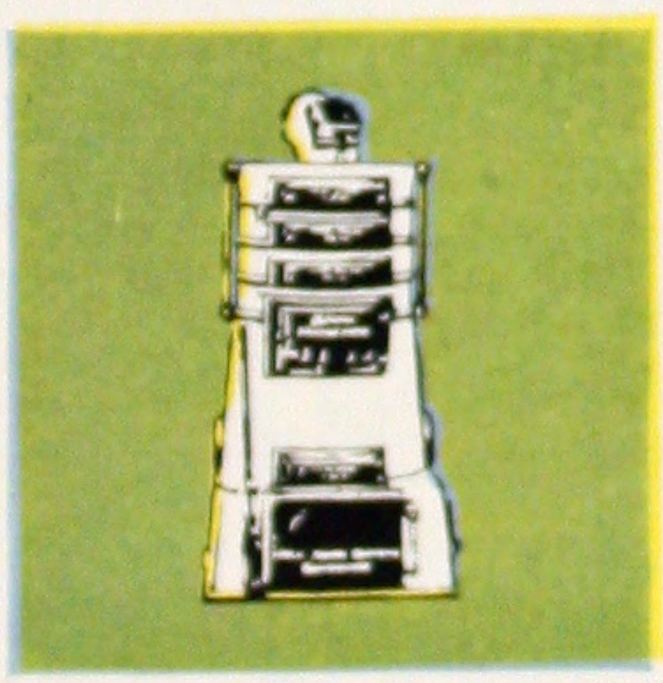


# *Group* B

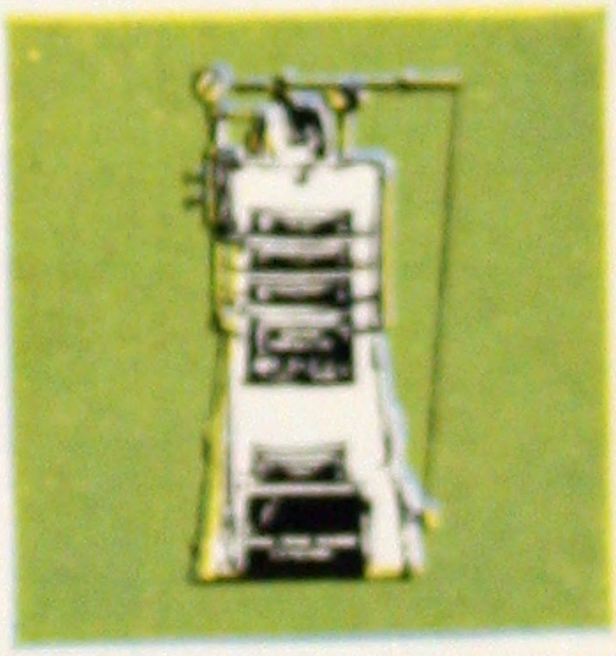


| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Nominal Grate Diam. | Grate Area Square Feet | Outlets and Inlets | Coal Capacity Lbs. | Total Steam Capacity Lbs. | Height Water Line Inches | Minimum Chimn. Height | Minimum Flue Size |
|---|---|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | | | | |
| 25 | 175 | 290 | 17″ | 1.58 | 2-2½″ | 113 | 700 | 49½ | 35′ | 8 x 8″ |
| 32 | 215 | 355 | 19″ | 1.87 | 2-2½″ | 153 | 820 | 51 | 35′ | 8 x 12″ |
| 35 | 245 | 405 | 20″ | 2.18 | 2-2½″ | 165 | 950 | 51 | 40′ | 8 x 12″ |
| 46 | 340 | 560 | 23″ | 2.76 | 2-3″ | 234 | 1200 | 56 | 45′ | 8 x 12″ |
| 56 | 385 | 635 | 25″ | 3.27 | 2-3″ | 255 | 1500 | 57½ | 45′ | 8 x 12″ |
| 66 | 500 | 825 | 27″ | 3.97 | 2-4″ | 305 | 2000 | 57½ | 50′ | 12 x 12″ |
| 76 | 590 | 975 | 29″ | 4.59 | 2-4″ | 335 | 2300 | 58½ | 50′ | 12 x 12″ |
| 86 | 700 | 1155 | 33″ | 5.94 | 2-4″ | 465 | 2800 | 56 | 50′ | 12 x 12″ |

NOTE—Boilers of 23″, 25″, 27″, 29″ and 33″ grate diameter are assembled with three intermediate sections between fire pot and dome.



# *Group* C

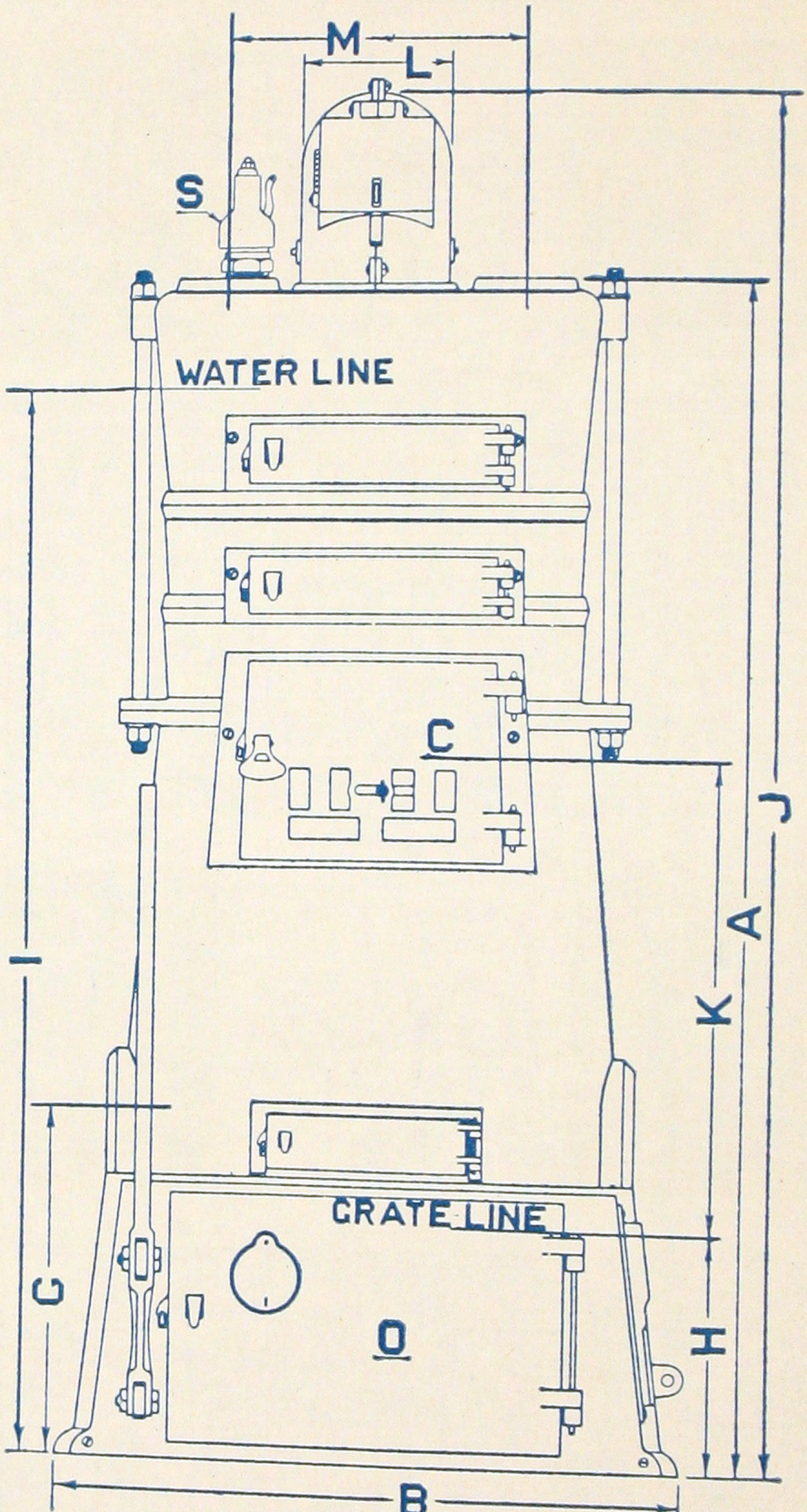


| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Nominal Grate Diam. | Grate Area Square Feet | Outlets and Inlets | Coal Capacity Lbs. | Total Steam Capacity Lbs. | Height Water Line Inches | Minimum Chimn. Height | Minimum Flue Size |
|---|---|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | | | | |
| 33 | 225 | 370 | 19″ | 1.87 | 2-2½″ | 153 | 860 | 56 | 40′ | 8 x 12″ |
| 36 | 260 | 430 | 20″ | 2.18 | 2-2½″ | 165 | 1000 | 56 | 45′ | 8 x 12″ |
| 47 | 360 | 590 | 23″ | 2.76 | 2-3″ | 234 | 1300 | 61 | 50′ | 8 x 12″ |
| 57 | 400 | 660 | 25″ | 3.27 | 2-3″ | 255 | 1600 | 62½ | 50′ | 8 x 12″ |
| 67 | 525 | 865 | 27″ | 3.97 | 2-4″ | 305 | 2100 | 62½ | 55′ | 12 x 12″ |
| 77 | 640 | 1060 | 29″ | 4.59 | 2-4″ | 335 | 2500 | 63½ | 55′ | 12 x 12″ |
| 87 | 750 | 1240 | 33″ | 5.94 | 2-4″ | 465 | 3000 | 61 | 55′ | 12 x 12″ |

NOTE — Boilers of 23″, 25″, 27″, 29″ and 33″ grate diameter are assembled with four intermediate sections between fire pot and dome.

*See "Guaranteed Heating" Booklet. See Engineering Data Catalog for asbestos cement required to insulate each size.

Detailed dimensions on page 9. A larger size of fire pot is recommended when soft coal is used. Boilers Nos. 85, 86 and 87 are equipped with rocking grates only.




*Measurements—Capitol Winchester Boilers*

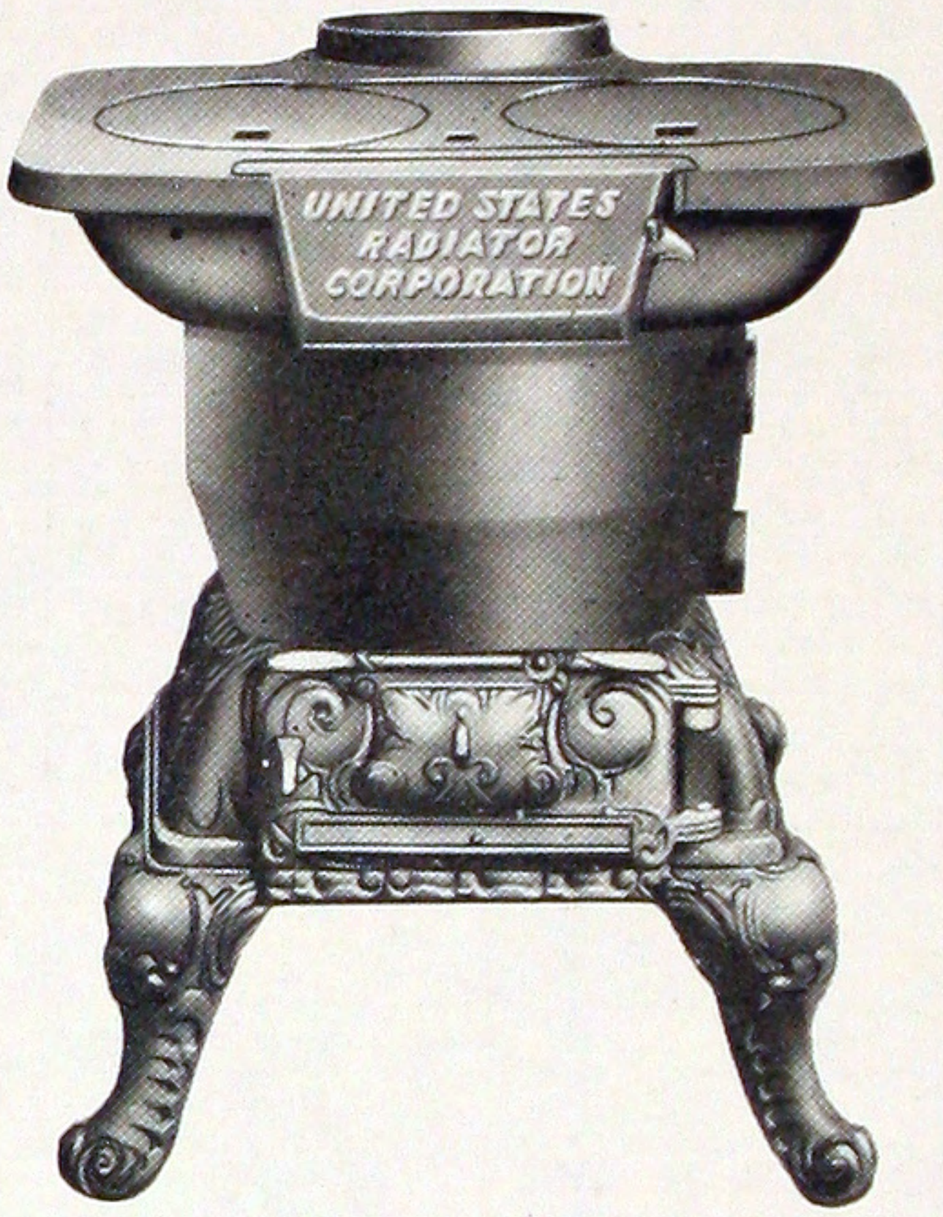
Steam trimmings extend 16 inches above outlets on Numbers 24 and 25; all others 14 inches. Center to center of coil openings, 6 inches on all sizes. For detail measurements, see the opposite page.

# CAPITOL WINCHESTER BOILER MEASUREMENTS—*Inches*

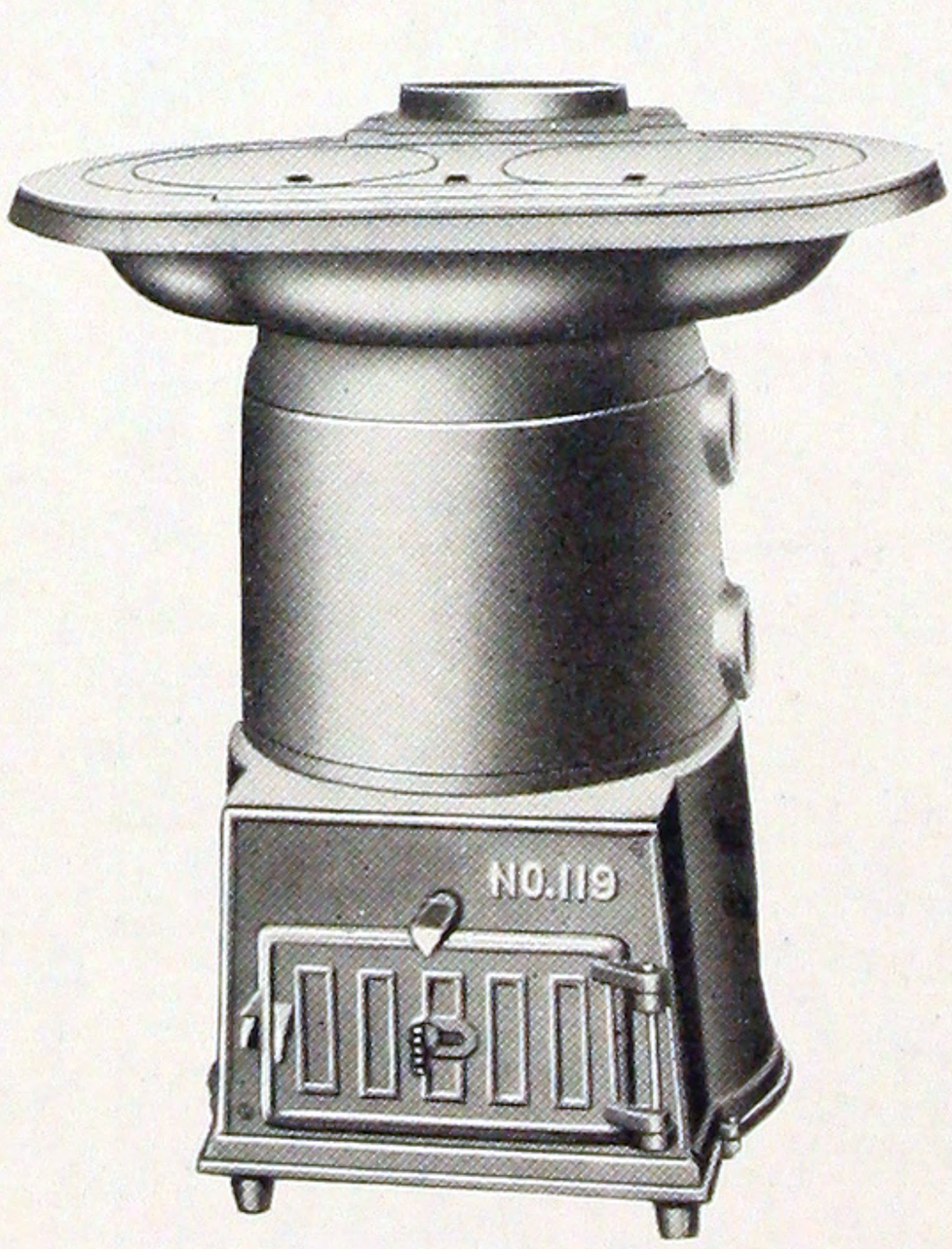
| Group | Steam or Water | Steam | | | Water | | Steam and Water | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Size No.** | **A** | **I** | **J** | **A** | **J** | **B** | **C** | **G** | **H*** | **K*** | **L** | **M** | **O** |
| **A** | 24 | 49 1/2 | 45 | 56 11/16 | 44 1/4 | 51 3/16 | 26 1/4 | 8x9 | 15 5/16 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 1/2 x 14 11/16 |
| | 31 | 50 3/4 | 46 | 59 | 45 1/2 | 53 3/4 | 26 3/4 | 9x11 | 15 5/16 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 1/2 x 14 11/16 |
| | 34 | 50 3/4 | 46 | 59 | 45 1/2 | 53 3/4 | 29 5/16 | 9x11 | 15 5/16 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 11/16 x 17 3/4 |
| | 45 | 55 3/4 | 51 | 64 5/8 | 50 1/2 | 59 3/8 | 31 | 9x12 | 16 1/4 | 8 7/8 | 24 1/8 | 8 | 16 5/16 | 10 11/16 x 17 3/4 |
| | 55 | 57 1/4 | 52 1/2 | 66 1/8 | 52 | 60 7/8 | 35 | 9x12 | 17 3/4 | 9 7/8 | 24 1/8 | 8 | 16 5/16 | 11 15/16 x 18 3/8 |
| | 65 | 57 1/4 | 52 1/2 | 67 3/8 | 52 | 62 1/8 | 35 3/4 | 9x13 | 17 3/4 | 10 3/8 | 24 7/8 | 9 | 17 13/16 | 11 13/16 x 18 3/8 |
| | 75 | 58 1/4 | 53 1/2 | 68 3/8 | 53 | 63 1/8 | 40 | 9x13 | 18 3/4 | 10 9/16 | 24 11/16 | 9 | 17 13/16 | 13 3/8 x 20 5/8 |
| | 85 | 55 3/4 | 51 | 66 7/8 | 50 1/2 | 61 5/8 | 41 7/8 | 9x14 | 16 1/4 | 12 1/4 | 20 1/4 | 10 | 21 7/16 | 10 11/16 x 17 3/4 |
| **B** | 25 | 54 1/16 | 49 1/2 | 61 1/4 | 48 13/16 | 56 | 26 1/4 | 8x 9 | 16 1/4 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 1/2 x 14 11/16 |
| | 32 | 55 3/4 | 51 | 64 | 50 1/2 | 58 3/4 | 26 3/4 | 9x11 | 15 3/8 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 1/2 x 14 11/16 |
| | 35 | 55 3/4 | 51 | 64 | 50 1/2 | 58 3/4 | 29 5/16 | 9x11 | 16 1/4 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 11/16 x 17 3/4 |
| | 46 | 60 3/4 | 56 | 69 5/8 | 55 1/2 | 64 3/8 | 31 | 9x12 | 16 1/4 | 8 7/8 | 24 1/8 | 8 | 16 5/16 | 10 11/16 x 17 3/4 |
| | 56 | 62 1/4 | 57 1/2 | 71 1/8 | 57 | 65 7/8 | 35 | 9x12 | 17 3/4 | 9 7/8 | 24 1/8 | 8 | 16 5/16 | 11 15/16 x 18 3/8 |
| | 66 | 62 1/4 | 57 1/2 | 72 3/8 | 57 | 67 1/8 | 35 3/4 | 9x13 | 17 3/4 | 10 3/8 | 24 7/8 | 9 | 17 13/16 | 11 15/16 x 18 3/8 |
| | 76 | 63 1/4 | 58 1/2 | 73 3/8 | 58 | 68 1/8 | 40 | 9x13 | 18 3/4 | 10 9/16 | 24 11/16 | 9 | 17 13/16 | 13 3/8 x 20 5/8 |
| | 86 | 60 3/4 | 56 | 71 7/8 | 55 1/2 | 66 5/8 | 41 7/8 | 9x14 | 16 1/4 | 12 1/4 | 20 1/4 | 10 | 21 7/16 | 10 11/16 x 17 3/4 |
| **C** | 33 | 60 3/4 | 56 | 69 | 55 1/2 | 63 3/4 | 26 3/4 | 9x11 | 15 3/8 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 1/2 x 14 11/16 |
| | 36 | 60 3/4 | 56 | 69 | 55 1/2 | 63 3/4 | 29 5/16 | 9x11 | 16 1/4 | 8 7/8 | 23 1/2 | 7 | 13 11/16 | 10 11/16 x 17 3/4 |
| | 47 | 65 3/4 | 61 | 74 5/8 | 60 1/2 | 69 3/8 | 31 | 9x12 | 16 1/4 | 8 7/8 | 24 1/8 | 8 | 16 5/16 | 10 11/16 x 17 3/4 |
| | 57 | 67 1/4 | 62 1/2 | 76 1/8 | 62 | 70 7/8 | 35 | 9x12 | 17 3/4 | 9 7/8 | 24 1/8 | 8 | 16 5/16 | 11 15/16 x 18 3/8 |
| | 67 | 67 1/4 | 62 1/2 | 77 3/8 | 62 | 72 1/8 | 35 3/4 | 9x13 | 17 3/4 | 10 3/8 | 24 7/8 | 9 | 17 13/16 | 11 15/16 x 18 3/8 |
| | 77 | 68 1/4 | 63 1/2 | 78 3/8 | 63 | 73 1/8 | 40 | 9x13 | 18 3/4 | 10 9/16 | 24 11/16 | 9 | 17 13/16 | 13 3/8 x 20 5/8 |
| | 87 | 65 3/4 | 61 | 76 7/8 | 60 1/2 | 71 5/8 | 41 7/8 | 9x14 | 16 1/4 | 12 1/4 | 20 1/4 | 10 | 21 7/16 | 10 11/16 x 17 3/4 |

*With Standard Grate Equipment.

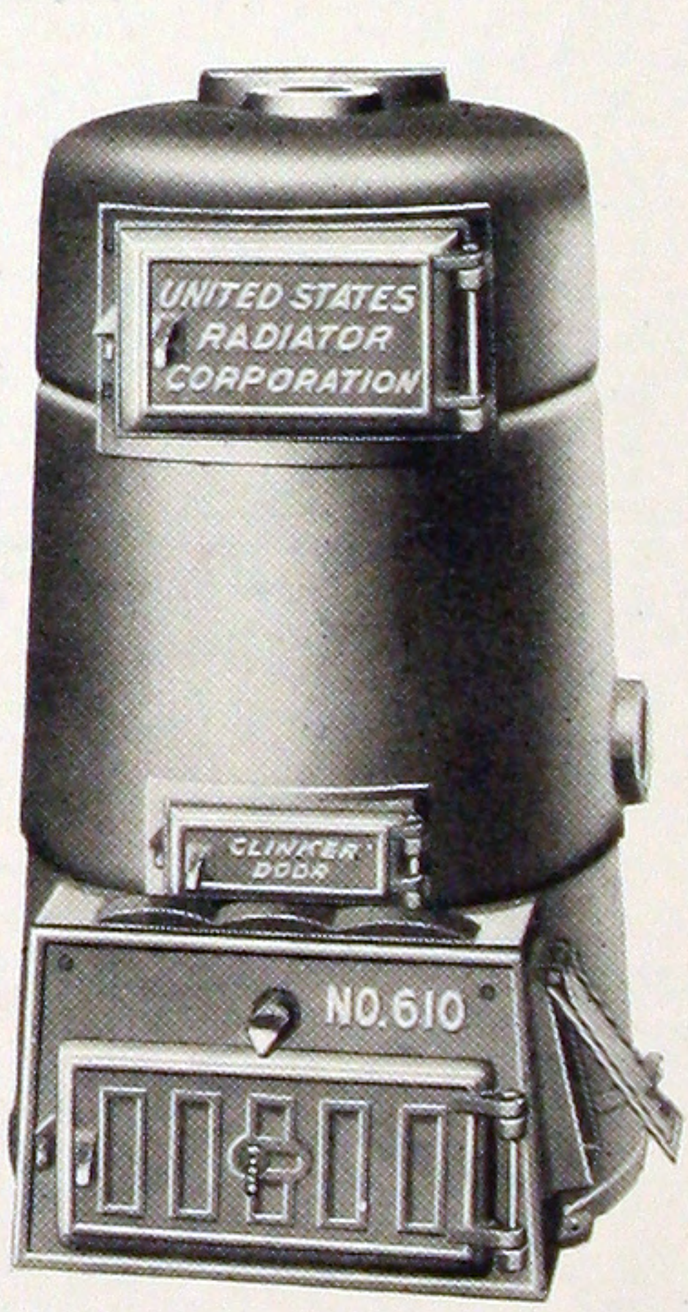
# HOT WATER SUPPLY BOILERS




*No. 2x—60 gals.*




*No. 119—90 gals.*




*No. 610—150 gals.*

The Capitol line adequately meets the wide demand in homes, barber shops, beauty parlors, small apartments, etc., for dependable hot water supply boilers. Like every other article that bears the name of the United States Radiator Corporation, each of these boilers meets high standards of quality in materials, design, and construction.

## GUARANTEE

Because of the many varying conditions and requirements surrounding the installation of Hot Water Supply Boilers, they are guaranteed only to the extent of furnishing new castings for anv found defective in manufacture.


*No. 620—200 gals.*


*No. 630—250 gals.*

| No. | *Nominal Capacity Gals. | Nominal Diam. Inches | Grate Area Sq. Ft. | Height Over-all Inches | Tappings | | | | Smoke Collar Inches |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | No. | Size Inches | Height Upper Inches | Height Lower Inches | |
| 2X | 60 | 9 | .40 | 23 ¾ | 2 | 1 | 17 ½ | 12 ⅝ | 6 |
| 119 | 90 | 10 | .42 | 26 ½ | 2 | 1 ¼ | 19 ½ | 13 ¾ | 6 |
| 610 | 150 | 13 | .89 | †30 | 2 | 2 | 30 | 11 ⅞ | 6 |
| 620 | 200 | 13 | .89 | †33 | 2 | 2 | 33 | 11 ¾ | 6 |
| 630 | 250 | 13 | .89 | †36 | 2 | 2 | 36 | 11 ⅞ | 6 |

*Gallons per hour per 25-degree rise on 8-hour firing period with hard coal.

†610, 620, 630 may be furnished with cast iron base plate as on 119 with legs 2½ inches high.

Grates: 2X is equipped with a draw center grate. All others have triangular grates.

Butterfly draft door is furnished on 610, 620 and 630.

No firing tools furnished with these boilers.

When hot water supply boilers are subjected to unusual pressure we recommend that a water pressure reducing valve and relief valve be used.

These boilers are built according to A. S. M. E. Standards. The maximum allowable working pressure is 40 pounds per square inch. If required to work under higher pressure, boilers should be specially tested at 2½ times the required pressure.

See Engineering Data Book for Hot Water Supply Ratings of Capitol Round and Square sectional boilers.

# UNITED STATES RADIATOR CORPORATION

General Offices, Detroit, Michigan

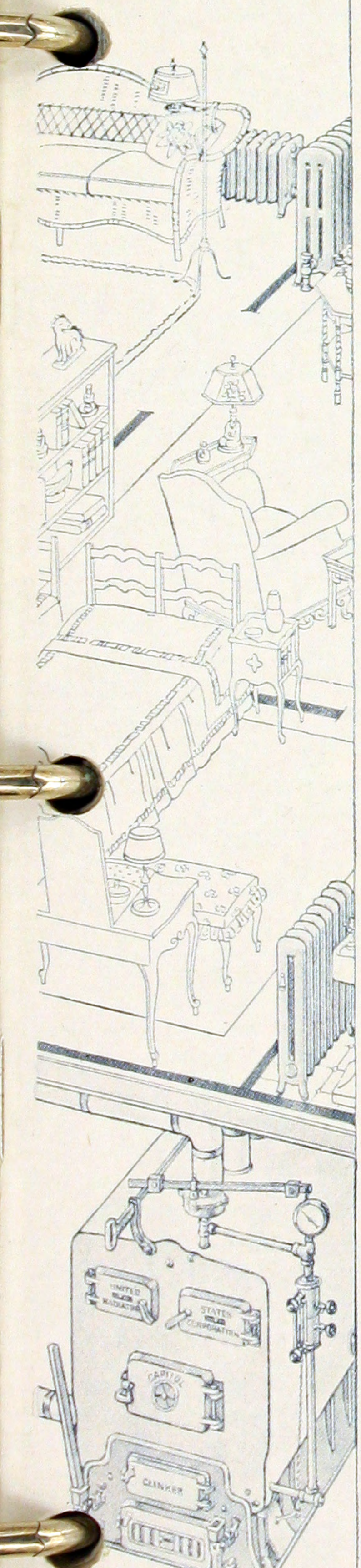
## BRANCH AND SALES OFFICES

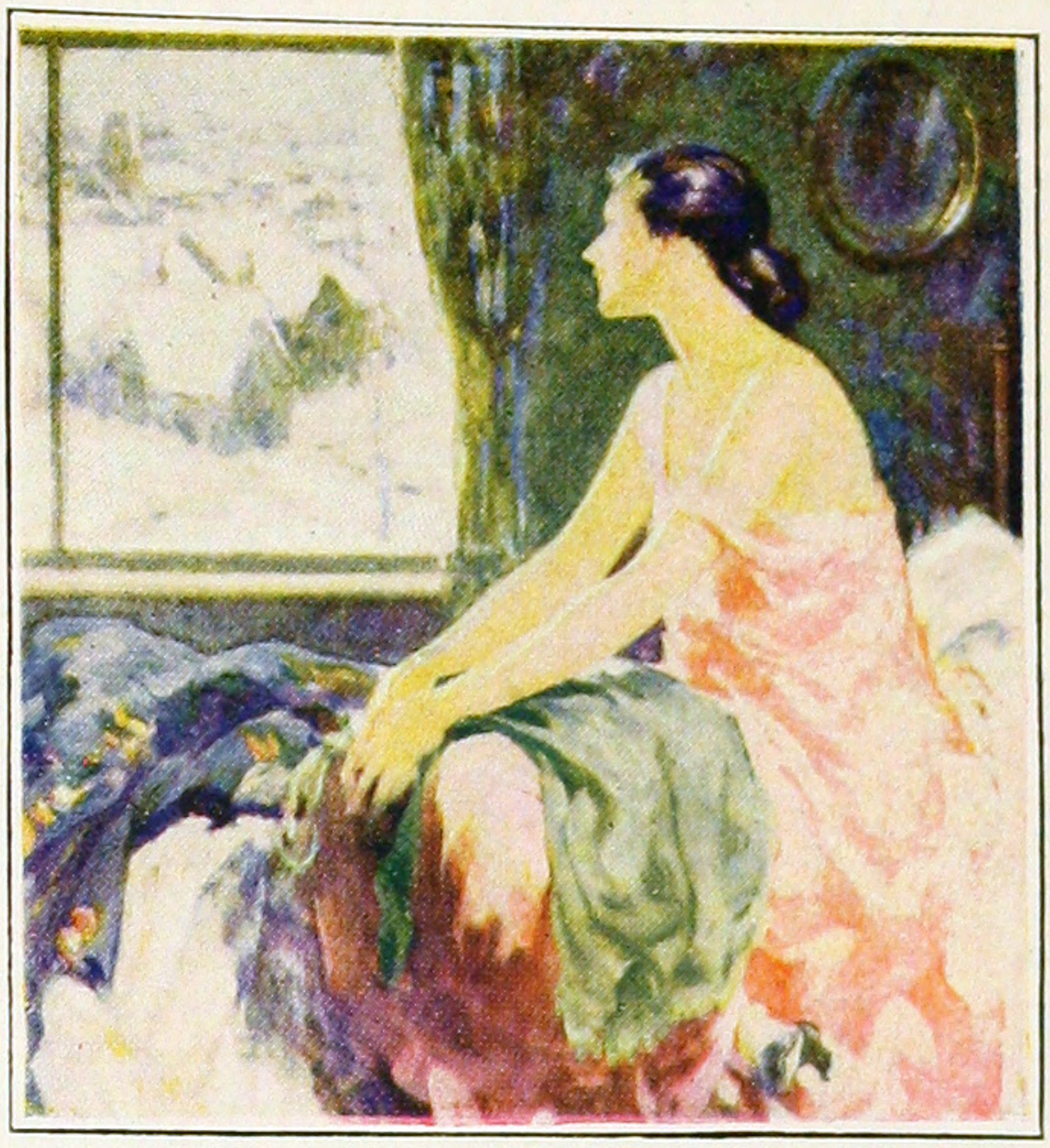
| | |
|---|---|
| *Boston | 136 Federal St. |
| *Portland, Me. | 2 Martyr St. |
| *Springfield, Mass. | North Main St. |
| *Providence | Allen's Ave., Foot of Oxford St. |
| *Troy | Center St., Green Island, N. Y. |
| *New Haven | New St. and Railroad Ave. |
| New York | 301 Architects Bldg. |
| *Brooklyn | 65 Forty-fifth St. |
| *Harrison, N. J. | Davis and Central Aves. |
| *Philadelphia | 220 South 16th St. |
| *Baltimore | 1147 Wicomico St. |
| Buffalo | 303 Crosby Bldg. |
| *Rochester, N. Y. | 64 Chester St. |
| Pittsburgh | 1008 Union Bank Bldg. |
| *Cleveland | 523 Guarantee Title Bldg. |
| *Columbus | 174 West Naghton St. |
| *Cincinnati | 1212 Exeter St. |
| Detroit | 517 Dime Savings Bank Bldg. |
| *Chicago | 500 North Dearborn St. |
| *Milwaukee | 168 Corcoran Ave. |
| *Indianapolis | 908 North Senate Ave. |
| *Louisville | 1631 West High St. |
| *Minnesota | 688 Hampden Ave., St. Paul |
| *St. Louis | 4004 Duncan Ave. |
| *Kansas City | 1405 West Eleventh St. |
| *Des Moines | 400 Southwest Ninth St. |
| *Omaha | 1017 North 21st St. |
| *Denver | 2439 Blake St. |
| *Seattle | 1248 First Ave., South |
| *Portland, Ore. | 16th, North and Thurman Sts. |
| *San Francisco | 640 Second St. |

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.—Detroit, Mich.—Dunkirk, N. Y.—Edwardsville, Ill.—Geneva, N. Y.—West Newton, Pa.

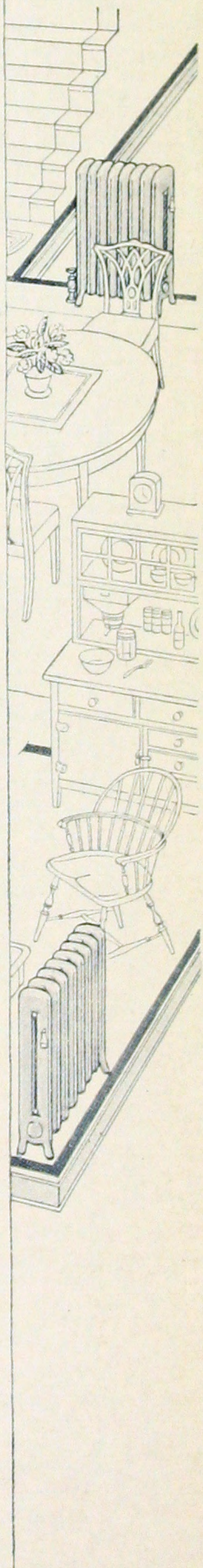
CHARLES DANIEL FREY, ADVERTISING, INC., CHICAGO



# Capitol *Dependable* Boilers

## *Square Type*



**UNITED STATES**
**RADIATOR CORPORATION**

*Detroit, Michigan*

# CAPITOL

## DEPENDABLE BOILERS

*[Square type]*

***UNITED STATES RADIATOR CORPORATION***

DETROIT, MICHIGAN

SIX MANUFACTURING PLANTS AND TWENTY-EIGHT ASSEMBLING PLANTS SERVE THE COUNTRY

*For 36 years, builders of dependable heating equipment*

# GUARANTEED HEATING

THE United States Radiator Corporation will give with each CAPITOL BOILER sold an absolute guarantee in writing that it will properly heat its full published amount of direct cast iron radiation provided only that the boiler is connected to a correctly installed system and that the recognized standard requirements are followed. Should any CAPITOL BOILER not meet these conditions, the additional capacity necessary will be supplied without charge by the

*UNITED STATES RADIATOR CORPORATION*

# The great economy and dependability of Capitol Boilers result from exacting care in the minutest detail

TESTS, hundreds of them, made fairly and without prejudice, have proved conclusively that each type and size of Capitol Square Boilers is unsurpassed. No other is more economical of fuel, easier to operate, more dependable.

And we believe that when you know how Capitol Boilers are made you will agree that they are not only the equal but the superior of any built.

Capitol dependability starts with the very sand used for the moulds. Samples are taken from every lot and tested for uniformity of size and freedom from impurity.

**Even the sand must be of highest grade**

All pig iron is selected through analysis. Molten iron is drawn from every cupola run and is tested for strength and chemically analyzed to insure perfect metal for every Capitol Boiler.

After each section is cast, trim and true, water at eighty pounds pressure is forced into it to be certain no imperfection exists.

Then every boiler is completely assembled. The nipples, machined and checked by a dial micrometer to one thousandth of an inch, are fitted in. The doors are ground to close snugly.

The assembled boiler is given a final hydraulic

trial. Men search with flashlights for the slightest leak. And a "chalk test" determines to an infinitesimal degree the accuracy of the doors.

**Every boiler completed, assembled, then tested**

Only after the chief inspector, and he is the absolute Czar at the factories, gives his final O. K., can a Capitol boiler be shipped. And before it is knocked down each section is stenciled assuring its faultless and easy re-assembly on the job.

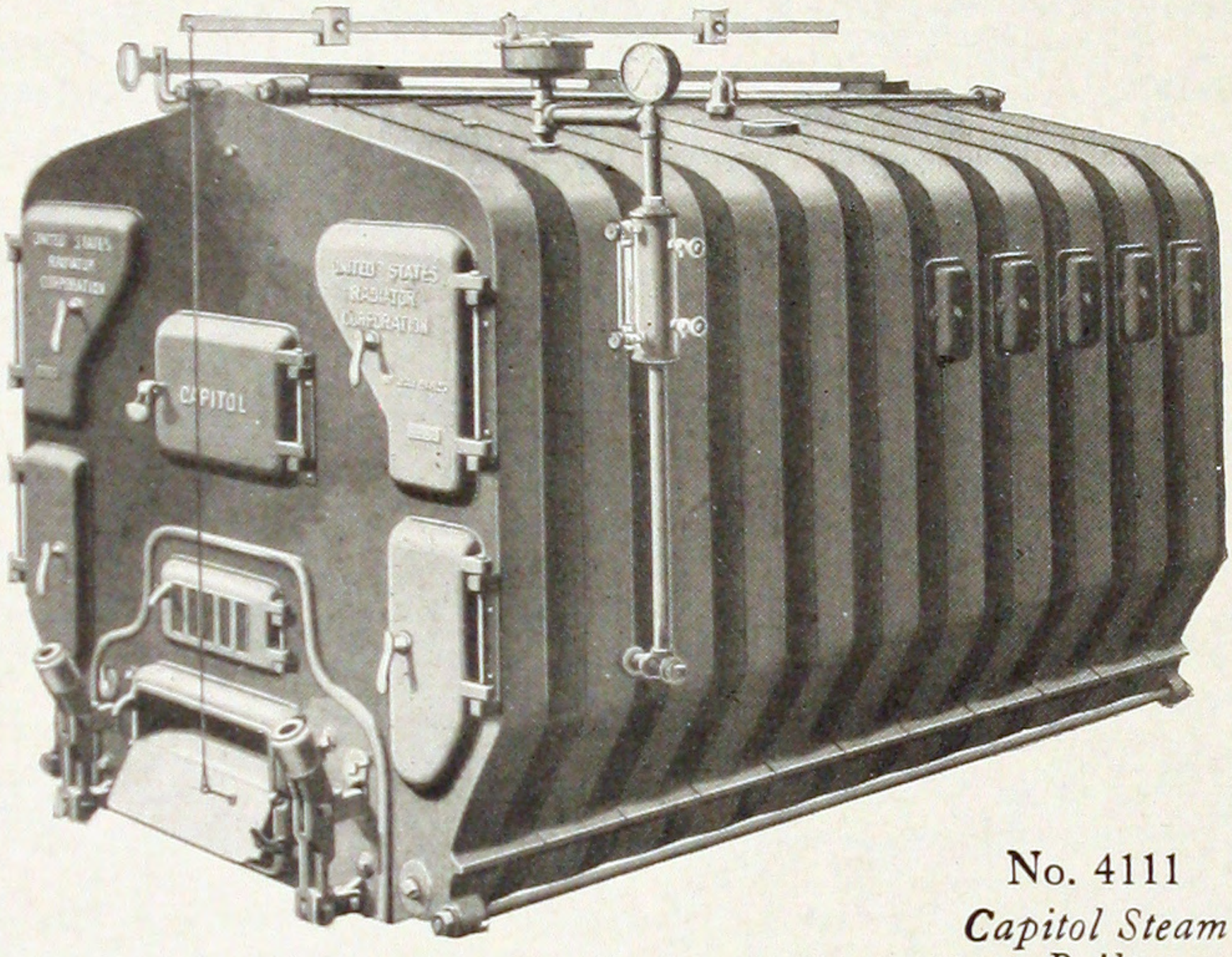
Some of these steps in themselves may seem trivial. Combined, their importance cannot be over-estimated.

**Scientific design saves fuel and reduces smoke**

They make a contribution to Capitol superiority as essential as the advanced design of Capitol Square Boilers: the correct proportioning of draft openings; the long flue travel and the scientific shaping of the direct and indirect heating surfaces; the durable, easy-shaking and dumping grates; the big doors; the easily cleaned flues.

It becomes doubly certain that all these more apparent advantages of Capitol Square Boilers must be the best known to the science of thermal efficiency when you realize what exacting attention is given the most minute details.

No other manufacturer in our knowledge goes so far to assure heating dependability and economy. This is the reason why United States Radiator Corporation can give with every Capitol Square Boiler, listed on the following pages, the strongest, most definite guarantee of heating satisfaction in the industry.




No. 4111
*Capitol Steam Boiler*

# Reduces installation cost—lowers water line—increases efficiency

The 4100 series is an engineering triumph. The usual base section has been eliminated and the resulting advantages are obvious.

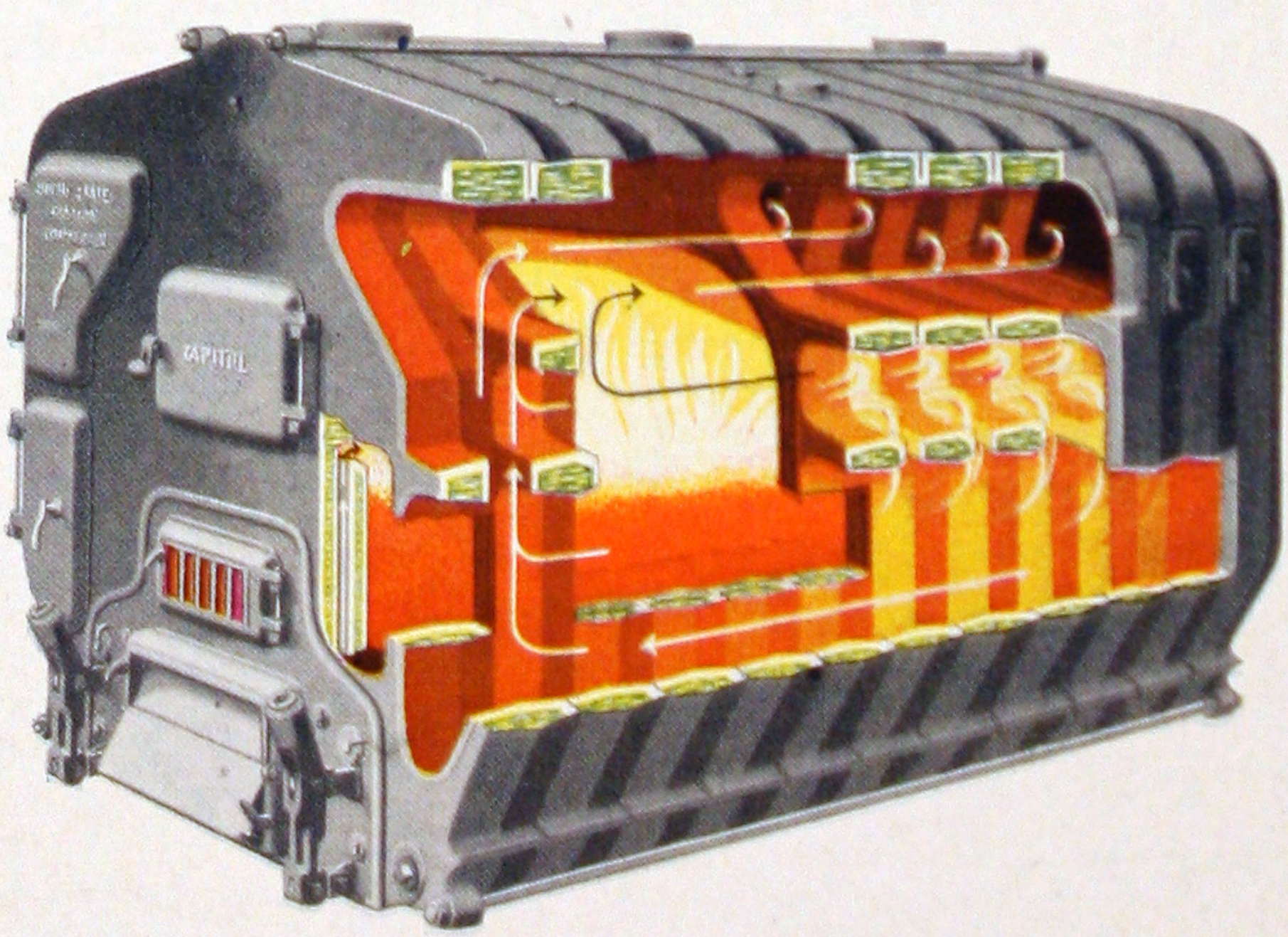
Installation is simplified. A pit is rarely required. Even the construction cost of the building itself is materially reduced. The exceptionally low water line, 49 inches, is the lowest practical for any room in which men can work, permitting foundations less deep than usual—an especially important economy where water, sand or rock makes excavating difficult and expensive.

The water carrying sections extending down to the floor, put to work the heat which sometimes goes to waste in the ash pit. These sections themselves carry the grate which extends the full length of the boiler.

At every point the design of the 4100 series is equally efficient. Scientifically proportioned passageways are cast across the front section. Through them, pre-heated air from the ash pit is drawn in correct amounts and admitted just above the fuel bed. Thus the air which has passed up through the grates is supplemented with a fresh supply, rich in oxygen, and complete combustion of all unburned gases is secured.

The maximum heat value of the coal secured, the best use is then made of it. The gases after reaching the back, return to the front of the boiler through two bottom flues, then pass back through two top flues, giving up their heat to the water every inch of this triple-boiler length travel, before passing into the smoke hood.

A cool chimney gives evidence of the proved economy and the very large heating capacity guaranteed for the 4100 series Capitol Square Boilers.

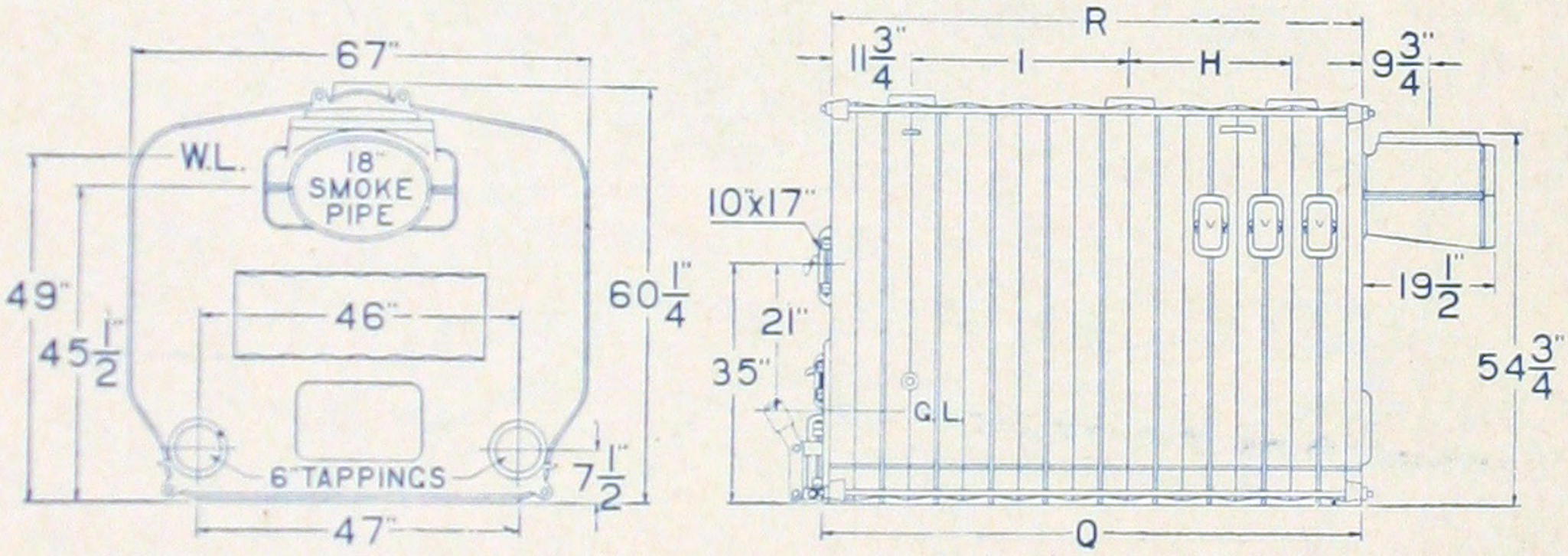



*Sectional view showing combustion and fire travel in* 4100 *series*

# RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| 4106 | 2000 | 3300 | 10.31 | 13.30 | 45 | 18 x 18 | 2—5″ |
| 4107 | 2500 | 4125 | 12.47 | 16.30 | 50 | 18 x 18 | 2—5″ |
| 4108 | 3000 | 4950 | 14.63 | 19.25 | 55 | 18 x 20 | 2—5″ |
| 4109 | 3500 | 5775 | 16.79 | 22.25 | 60 | 20 x 20 | 3—5″ |
| 4110 | 4000 | 6600 | 18.95 | 25.20 | 65 | 20 x 24 | 3—5″ |
| 4111 | 4500 | 7425 | 21.11 | 28.20 | 70 | 24 x 24 | 3—5″ |

Inclusive of trimmings—HEIGHT 71 inches; WIDTH 75 inches.
Height of Water Line, 49 inches.
Two 6-inch return tappings are located approximately concentric with the lower nipple ports on the rear of the back section.
Equipped with combination top and back outlet smoke hood.
See Egineering Data Book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




# MEASUREMENTS

| No. | H Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|
| 4106 | .... | 16 | 46 15/16 | 46 1/16 |
| 4107 | .... | 16 | 54 15/16 | 54 1/16 |
| 4108 | .... | 24 | 62 15/16 | 62 1/16 |
| 4109 | 24 | 24 | 70 15/16 | 70 1/16 |
| 4110 | 24 | 32 | 78 15/16 | 78 1/16 |
| 4111 | 32 | 32 | 86 15/16 | 86 1/16 |

The above measurements are subject to slight variations in assembling.
Pit dimensions on page 19.

## ASSEMBLY

4106 F-A-M-Y-V-B
4107 F-A-M-Y-V-V-B
4108 F-A-M-M-Y-V-V-B
4109 F-A-N-M-Y-V-V-X-B
4110 F-A-N-M-M-Y-V-V-X-B
4111 F-A-N-M-M-Y-V-V-V-X-B

## KEY TO SECTIONS

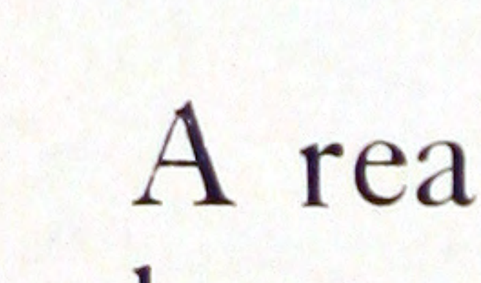
F—Front.
A—Tapped front flue with flow, water column and water heater tappings.
N—Plain front flue.
M—Plain middle.
Y—Tapped safety valve section with flow and safety valve tappings.
V—Plain rear flue.
X—Tapped rear flue with flow tapping.
B—Back.

No. 187 *Capitol Steam Boiler*

# A real boiler for the smallest houses, bungalows, and shops

Any home, though it has a basement of the most limited dimensions, need not put up with an imitation boiler or a makeshift heating system.

Only 28½ inches wide and with a 40½ inch water line the Series 180 Capitol Boilers provide full boiler efficiency in the smallest space.

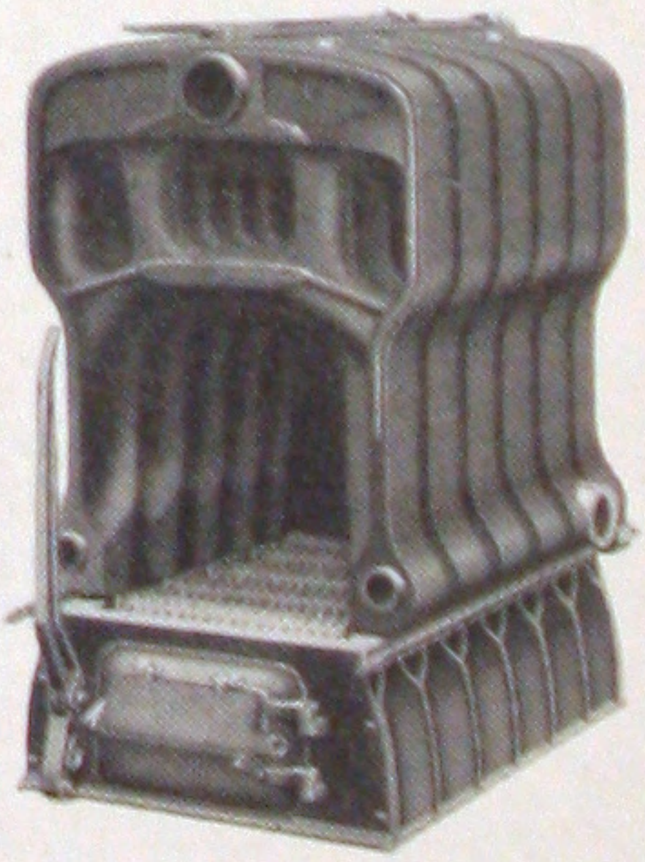


*All sections have nipple connection machined to 1/1000 of an inch*

They are designed as well, built as carefully and have all the economy, dependability and operating ease of the larger size Capitol Boilers.

They are guaranteed to heat 200 to 500 square feet of radiation by steam and 330 to 825 square feet by water.* They will efficiently burn any kind of fuel—hard or soft coal, wood, coke, gas, or oil.

**See booklet "Guaranteed Heating"*

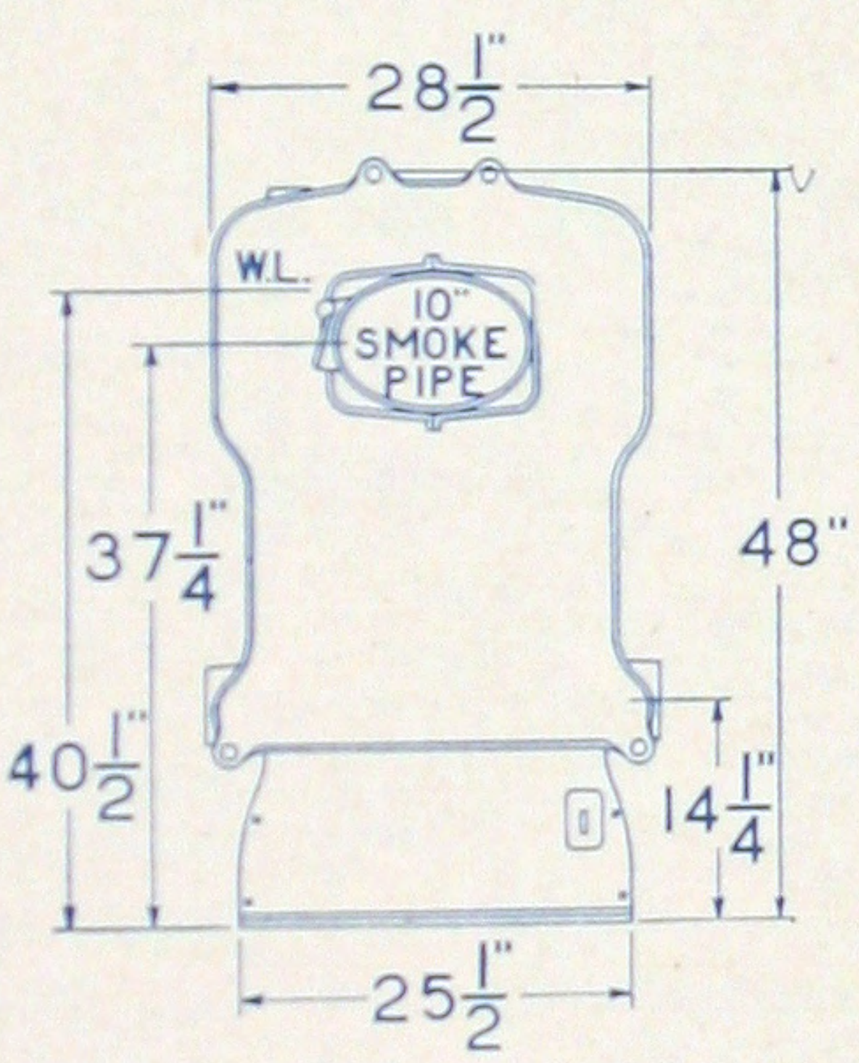


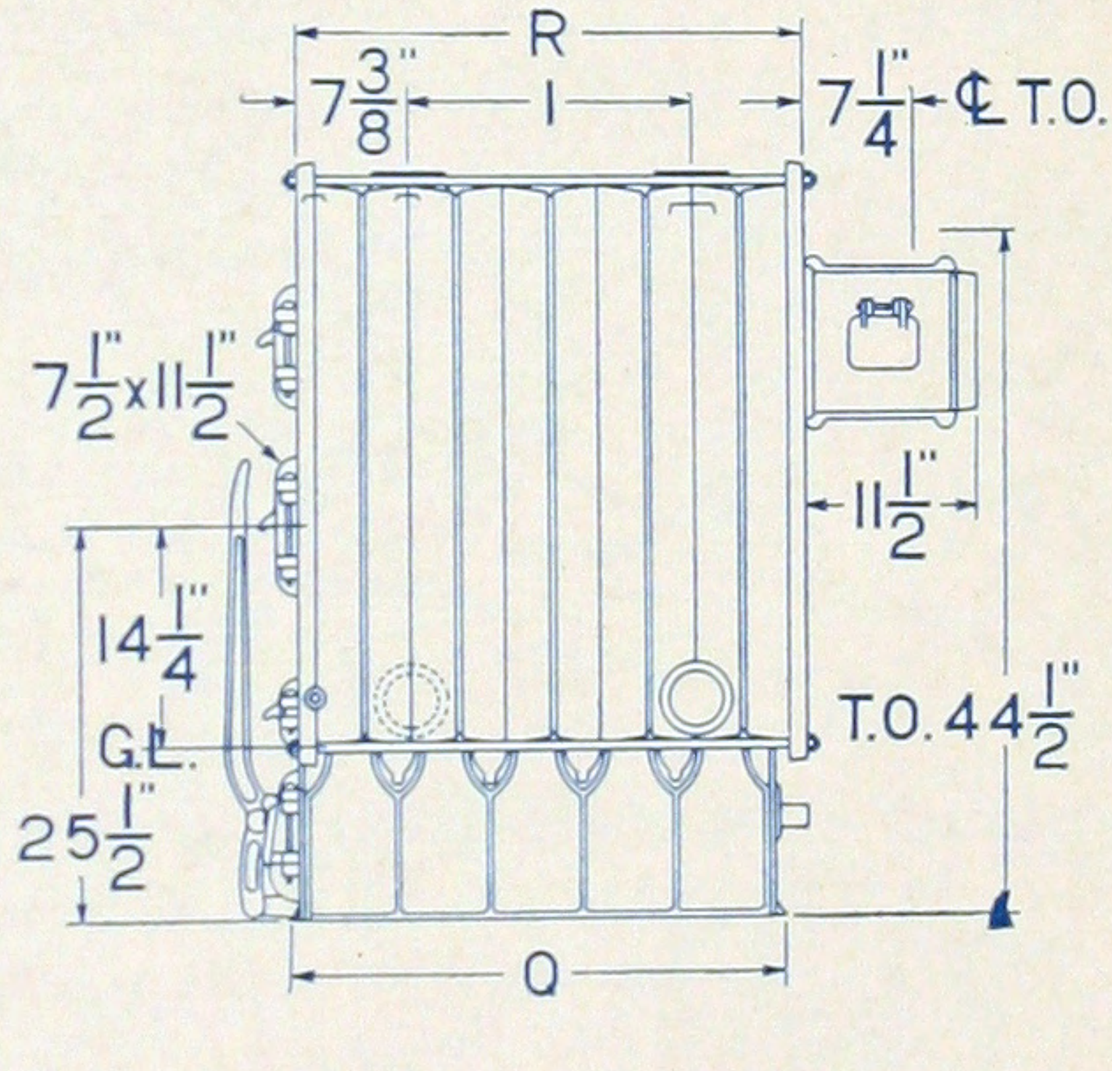
No. 187 *Capitol Water Boiler with front section removed*

# RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq. Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets and Inlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| 184 | 200 | 330 | 1.88 | 2.33 | 35 | 8 x 8 | 2—3″ |
| 185 | 300 | 495 | 2.63 | 3.17 | 35 | 8 x 12 | 2—3″ |
| 186 | 400 | 660 | 3.38 | 4.01 | 35 | 8 x 12 | 2—3″ |
| 187 | 500 | 825 | 4.13 | 4.84 | 40 | 8 x 12 | 2—3″ |

Inclusive of trimmings—HEIGHT 61½ inches; WIDTH 36¾ inches.
Height of Water Line, 40½ inches.
Specify whether back or top outlet smoke hood is required.
See Engineering Data book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




# MEASUREMENTS

| No. | H Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|
| 184 | ..... | 6 ¼ | 20 ⅜ | 20 ⅞ |
| 185 | ..... | 12 ½ | 26 ½ | 27 ⅛ |
| 186 | ..... | 18 ¾ | 32 ⅝ | 33 ⅜ |
| 187 | ..... | 25 | 38 ¾ | 39 ⅝ |

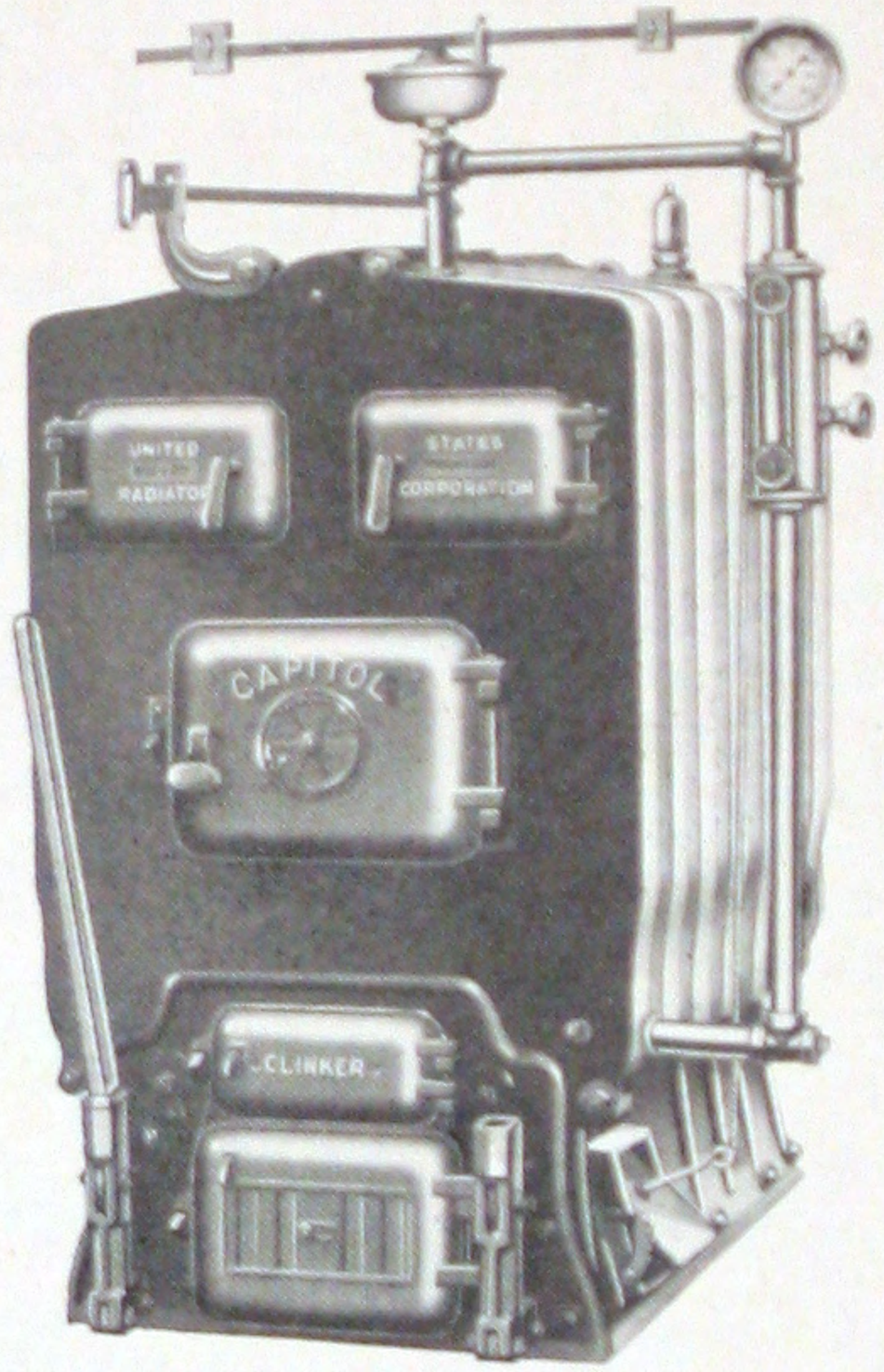
The above measurements are subject to slight variations in assembling.
Pit dimensions given on page 19.

## ASSEMBLY

| | |
|---|---|
| 184 | F-S-X-B |
| 185 | F-S-M-X-B |
| 186 | F-S-M-M-X-B |
| 187 | F-S-M-M-M-X-B |

## KEY TO SECTIONS

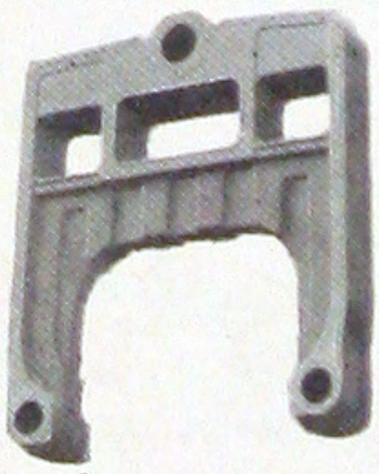
F—Front.
S—Tapped front flue with flow, return, and water heater tappings.
M—Plain middle.
X—Tapped middle with flow, return, and safety valve tappings.
B—Back.




No. 207
*Capitol*
*Steam*
*Boiler*

# More heat from every pound of coal

Guaranteed to heat 350 to 750 square feet of radiation by steam and 580 to 1240 square feet by water,* the Series 200 is not surpassed by any boiler equal in size in the entire heating field.

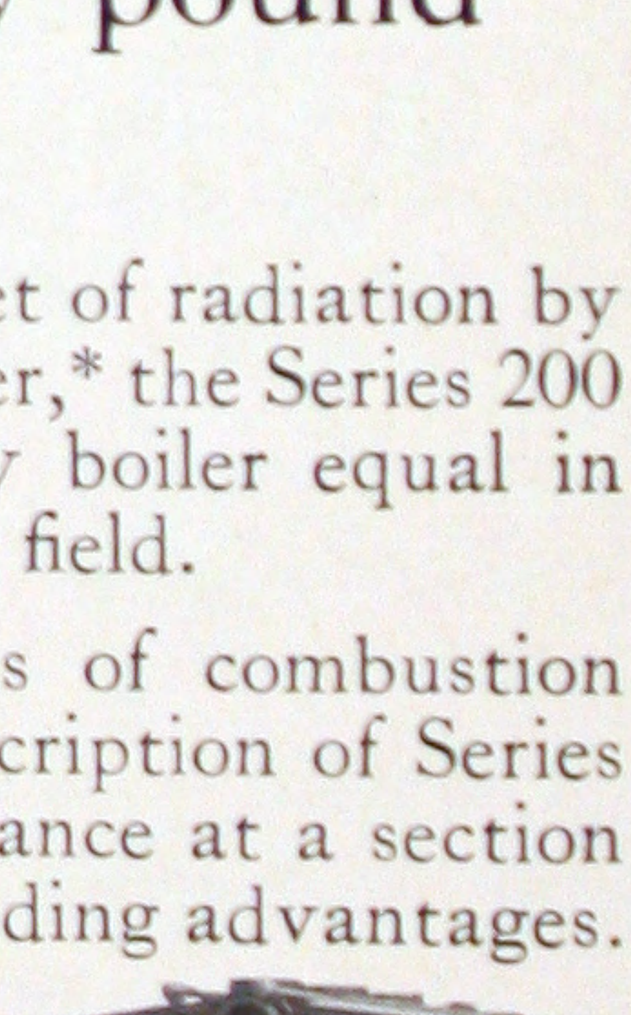


*An intermediate section in the 200 series*

Its superior principles of combustion are explained in the description of Series 250 on page 10 but a glance at a section reveals one of its outstanding advantages. An extended arch with four water bearing compartments multiply the surface area exposed to the direct heat of the fire.

The low water line, only 46½ inches, makes this boiler ideal for installation in basements with low ceilings. Hard or soft coal, wood, coke, gas or oil can be efficiently burned. Additional sections can be added at any time up to the maximum capacity for this series.

**See booklet "Guaranteed Heating"*

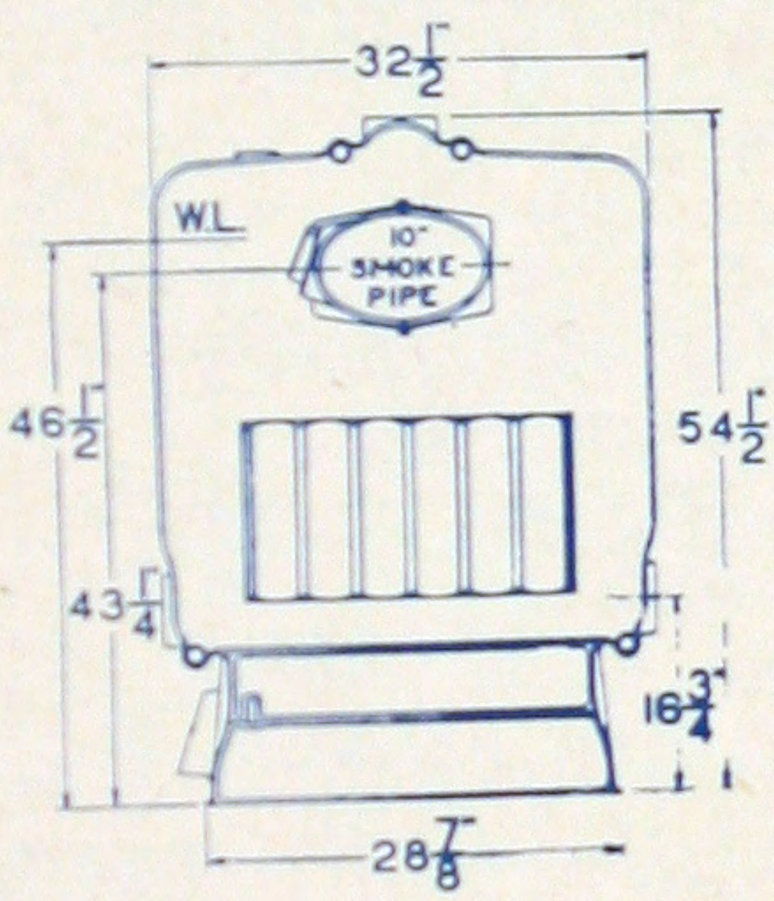


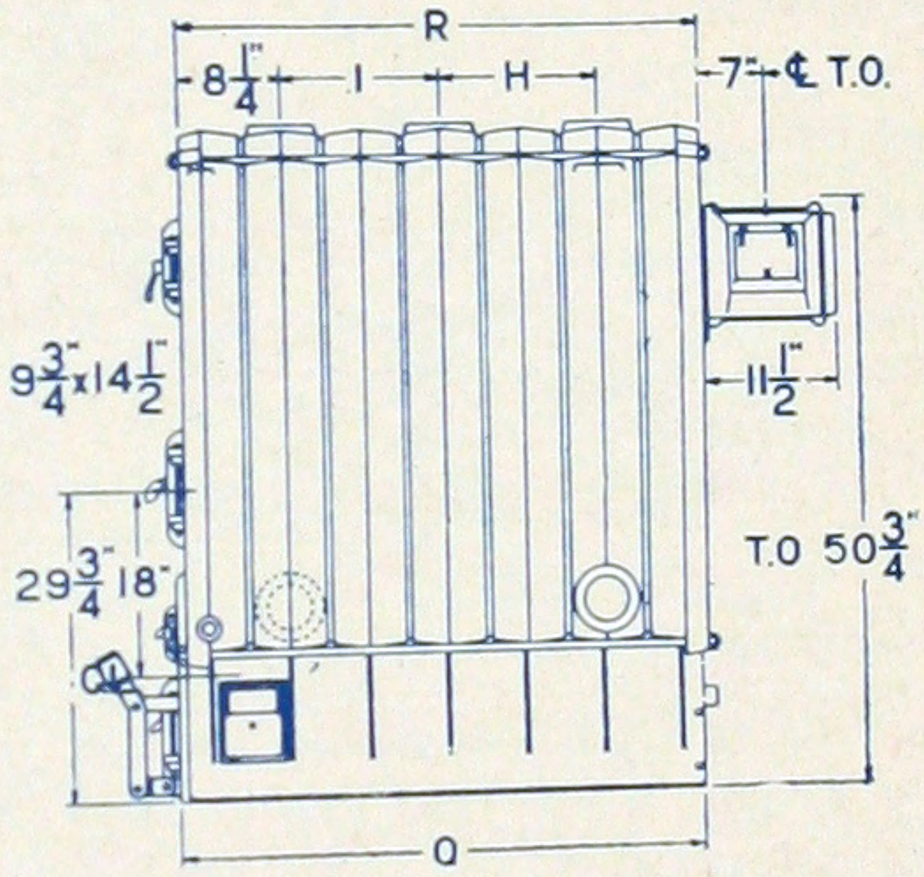
No. 257 *Capitol Water Boiler with front section removed*

# RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets and Inlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| 204 | 350 | 580 | 2.59 | 4.36 | 35 | 8 x 12 | 2—3″ |
| 205 | 500 | 825 | 3.48 | 5.85 | 35 | 8 x 12 | 2—3″ |
| 206 | 625 | 1030 | 4.37 | 7.34 | 35 | 12 x 12 | 2—3″ |
| 207 | 750 | 1240 | 5.26 | 8.83 | 40 | 12 x 12 | 3—3″ |

Inclusive of trimmings—HEIGHT 66½ inches; WIDTH 45 inches.
Height of Water Line, 46½ inches.
Specify whether back or top outlet smoke hood is desired.
See Engineering Data book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




# MEASUREMENTS

| No. | H Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|
| 204 | . . . . . | 6 1/4 | 23 5/8 | 22 7/8 |
| 205 | . . . . . | 12 1/2 | 29 7/8 | 29 1/8 |
| 206 | . . . . . | 18 3/4 | 36 1/8 | 35 3/8 |
| 207 | 12 1/2 | 12 1/2 | 42 3/8 | 41 5/8 |

The above measurements are subject to slight variations in assembling.
Pit dimensions on page 19.

## ASSEMBLY

204—F-S-X-B
205—F-S-M-X-B
206—F-S-M-M-X-B
207—F-S-M-T-M-X-B

## KEY TO SECTIONS

F—Front.
S—Tapped middle with flow, return and water heater tappings.
M—Plain middle.
T—Tapped middle with flow and return tappings only.
X—Tapped middle with flow, return and safety valve tappings.
B—Back.

*Sectional view* No. 257 *Capitol Boiler (water) showing efficient combustion and long fire travel*

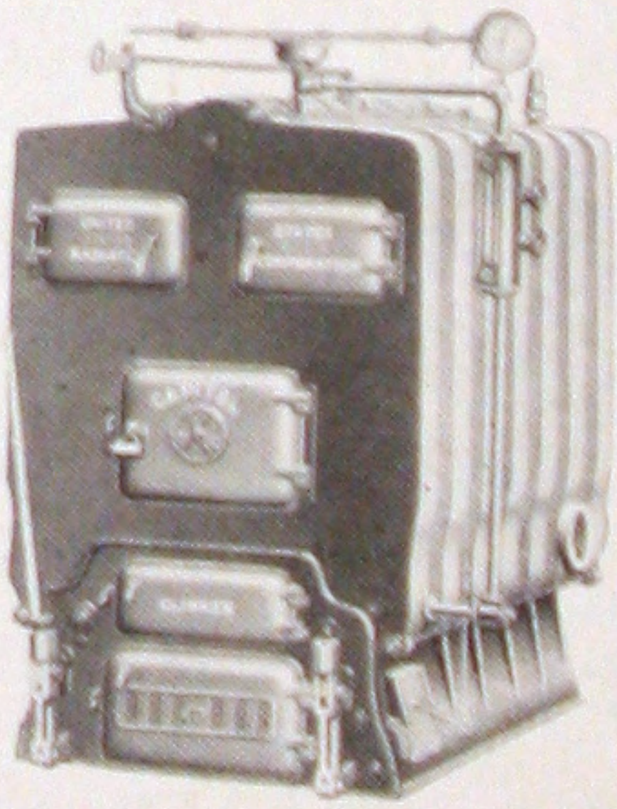
# Increased heating surface decreases fuel consumption

What good is the most perfect combustion if much of the heat obtained escapes up the chimney? The Capitol Series 250 not only gets the most heat out of the fuel by properly designed draft openings, deep fire pot, and adequate combustion chamber; *it puts the maximum amount of heat to work.*

Each section in Series 250 has an additional water bearing arch separated from the usual one by five self-cleaning flues. Thus all sides of it are in direct contact with the full heat from the fire bed. But that is not all. After heating this great area of direct surface, the gases are forced to pass back to the front through two side flues and return through a central flue. The last possible heat unit is wrested from them before they leave the boiler.

750 to 1300 square feet of radiation by steam and 1240 to 2145 by water is the guaranteed capacity.* Additional sections may be added to the smaller sizes at any time.

**See booklet "Guaranteed Heating"*

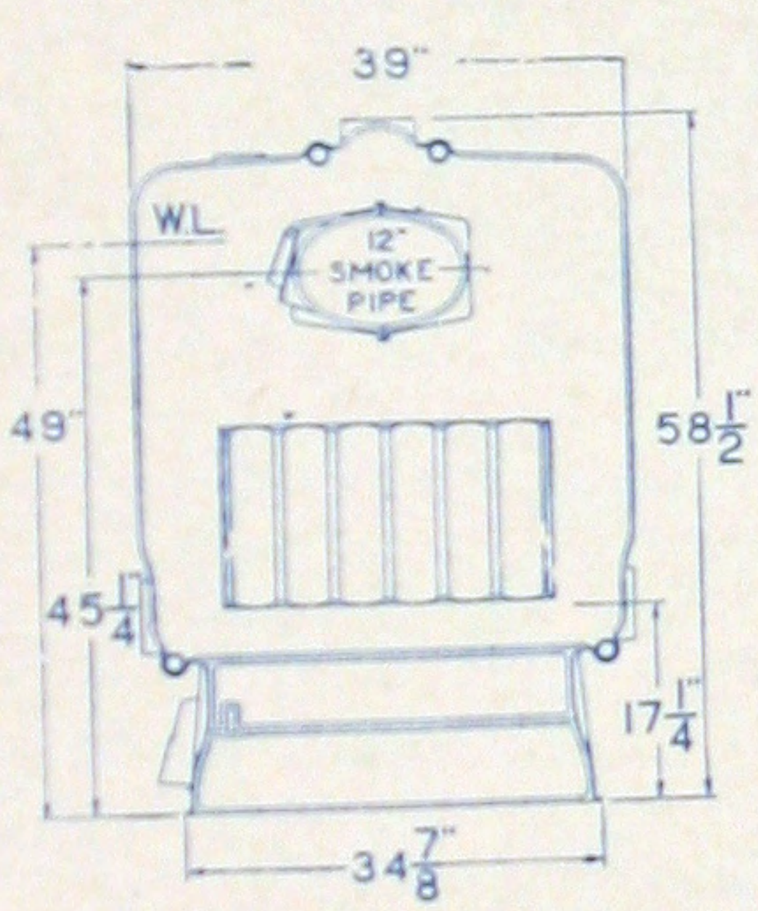


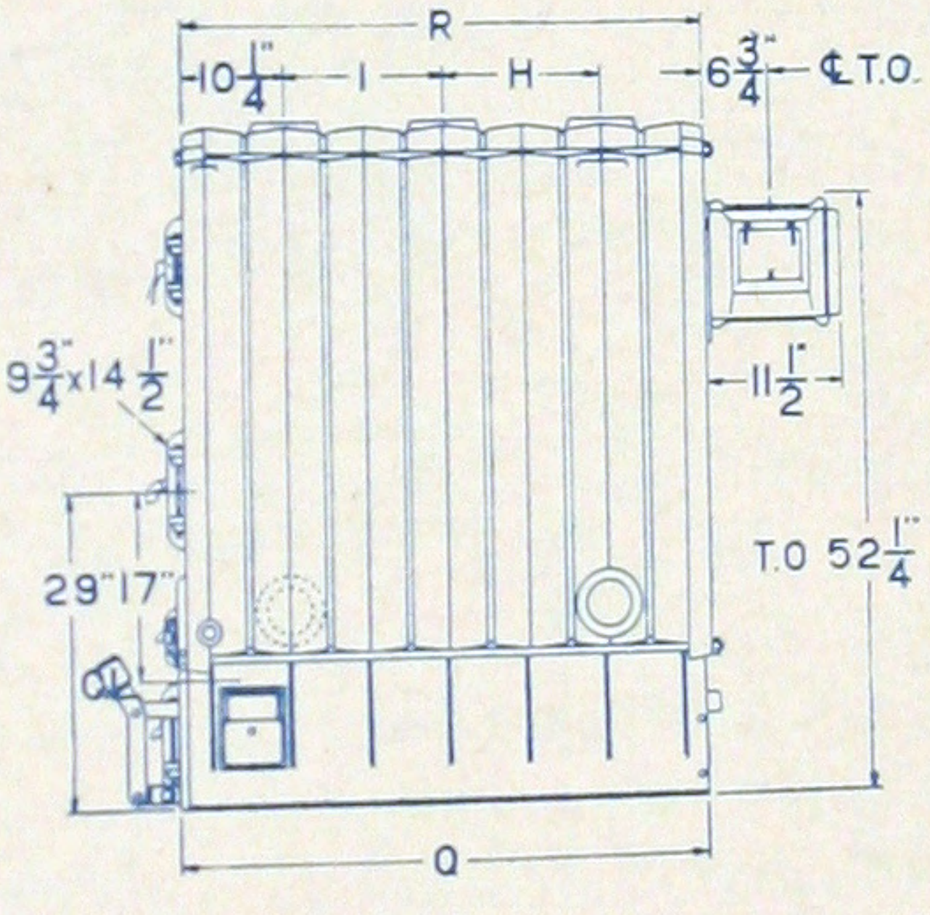
No. 257 *Capitol Steam Boiler*

# RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets and Inlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| 255 | 750 | 1240 | 5.66 | 8.37 | 40 | 8 x 12 | 2—4″ |
| 256 | 925 | 1525 | 7.08 | 10.45 | 40 | 8 x 12 | 2—4″ |
| 257 | 1125 | 1855 | 8.50 | 12.53 | 40 | 12 x 12 | 3—4″ |
| 258 | 1300 | 2145 | 9.92 | 14.62 | 45 | 12 x 12 | 3—4″ |

Inclusive of trimmings—HEIGHT 70½ inches; WIDTH 51 inches.
Height of Water Line 49 inches.
Specify whether back or top outlet smoke hood is required.
See Engineering Data book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




# MEASUREMENTS

| No. | H Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|
| 255 | ..... | 16 | 37 ¼ | 36 ½ |
| 256 | ..... | 24 | 45 ¼ | 44 ½ |
| 257 | 16 | 16 | 53 ¼ | 52 ½ |
| 258 | 16 | 24 | 61 ¼ | 60 ½ |

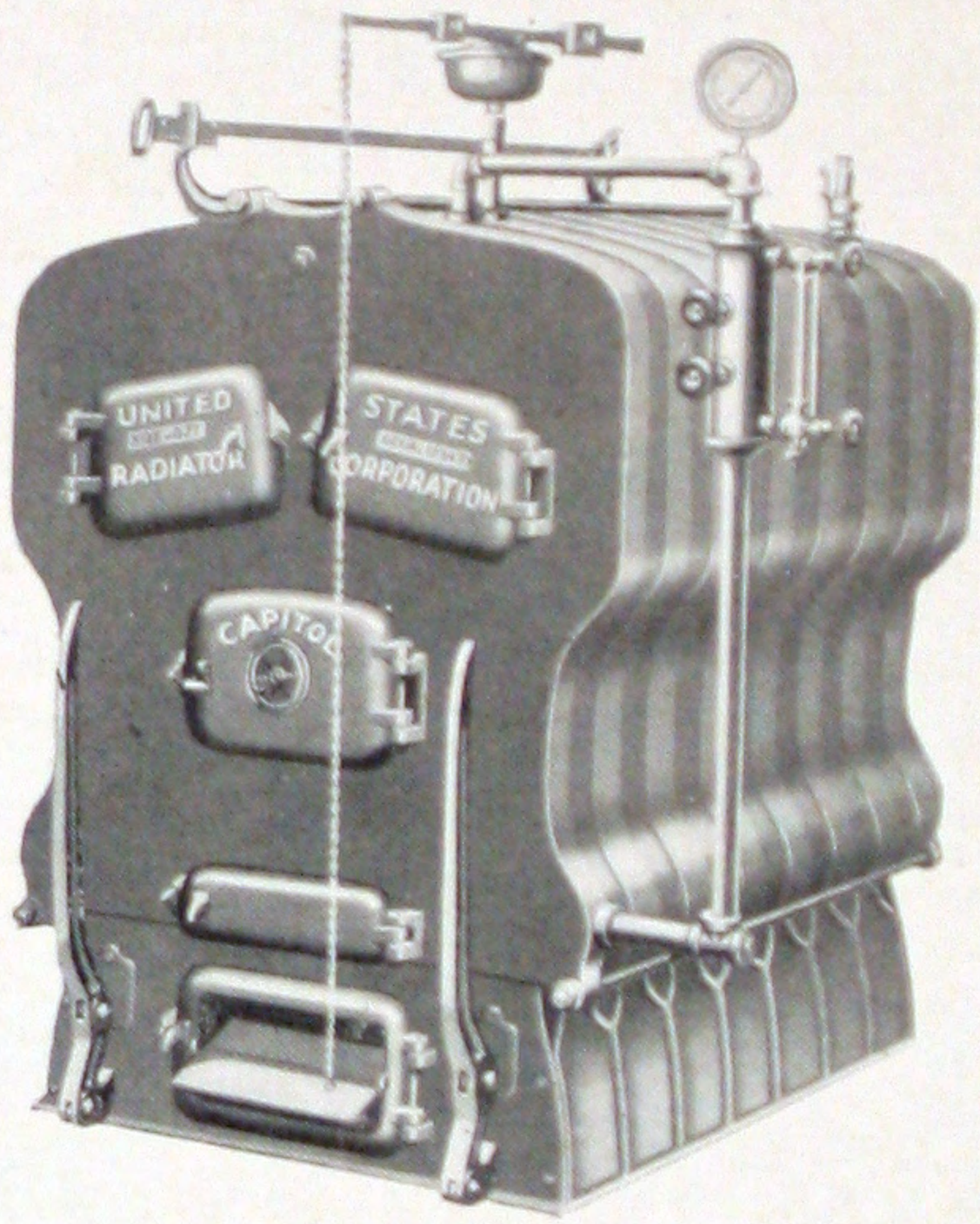
The above measurements are subject to slight variations in assembling.
Pit dimensions on page 19.

## ASSEMBLY

255 F-S-M-X-B
256 F-S-M-M-X-B
257 F-S-M-T-M-X-B
258 F-S-M-M-T-M-X-B

## KEY TO SECTIONS

F—Front.
S—Tapped middle with flow, return and water heater tappings.
M—Plain middle.
T—Tapped middle with flow and return tappings only.
X—Tapped middle with flow, return and safety valve tappings.
B—Back.




No. G-278
*Capitol Steam Boiler*

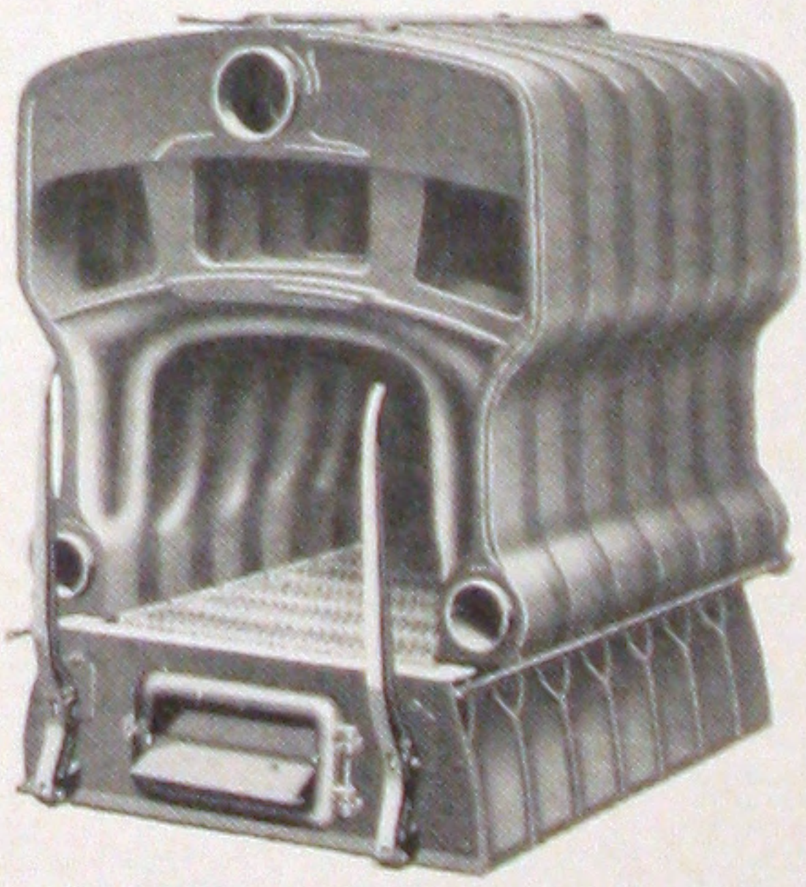
# Low water line—high efficiency

With a water line 3½ inches lower than Series 250, it is often economical to substitute the slightly larger G-270 series where the difference saves the building of a pit.

It has the precise draft control, the exactly proportioned direct heating surface and the long flue travel of all Capitol Square Boilers. And like them, Series G-270 has an extra deep fire box. This Capitol advantage permits a bed of fuel so thick that it serves its full radiating capacity while burning slowly and efficiently. Yet it has the reserve to meet the emergency of a quick drop in temperature. Further, the deeply banked fire retains sufficient live coke to eliminate the waste and labor of forcing the fire in the morning.

Guaranteed for radiating surface of 800 to 1350 square feet with steam and 1320 to 2220 square feet with water.* Burns any fuel economically.

**See booklet "Guaranteed Heating"*

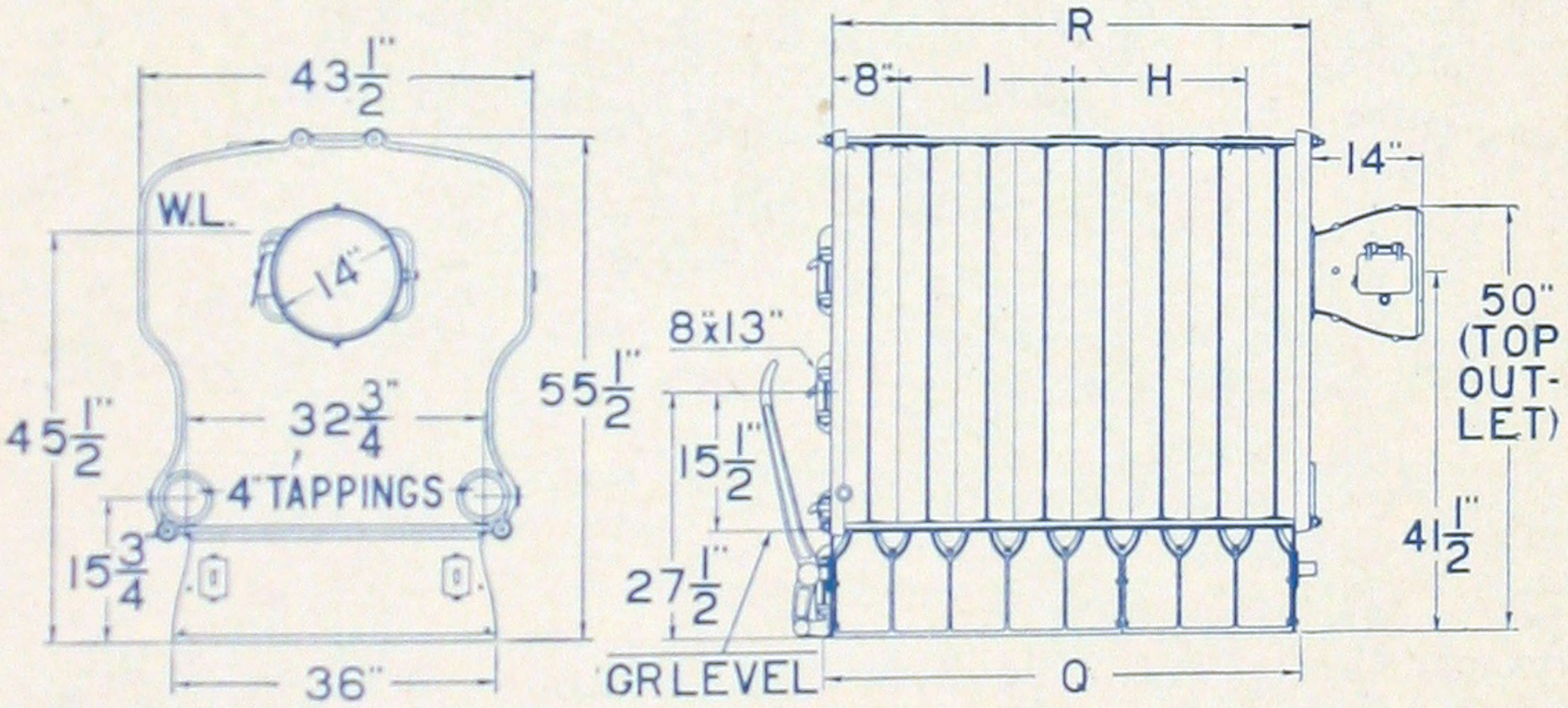


No. G-278 *Water Boiler with front section removed*

# RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| G276 | 800 | 1320 | 5.32 | 7.93 | 40 | 12 x 12 | 2—4″ |
| G277 | 980 | 1620 | 6.55 | 9.65 | 40 | 12 x 12 | 2—4″ |
| G278 | 1160 | 1920 | 7.78 | 11.37 | 45 | 12 x 12 | 3—4″ |
| G279 | 1350 | 2220 | 9.01 | 13.09 | 45 | 12 x 12 | 3—4″ |

Inclusive of trimmings—HEIGHT 68½ inches; WIDTH 50¾ inches.
Height of Water Line, 45½ inches.
Two 4-inch return tappings are located concentric with the lower nipple ports on the rear of back section.
Specify whether back or top outlet smoke hood is required.
See Engineering Data book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




# MEASUREMENTS

| No. | H Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|
| G276 | ..... | 20 ¼ | 35 15/16 | 35 7/8 |
| G277 | ..... | 27 | 42 5/8 | 42 5/8 |
| G278 | 20 ¼ | 13 ½ | 49 5/16 | 49 3/8 |
| G279 | 20 ¼ | 20 ¼ | 56 | 56 1/8 |

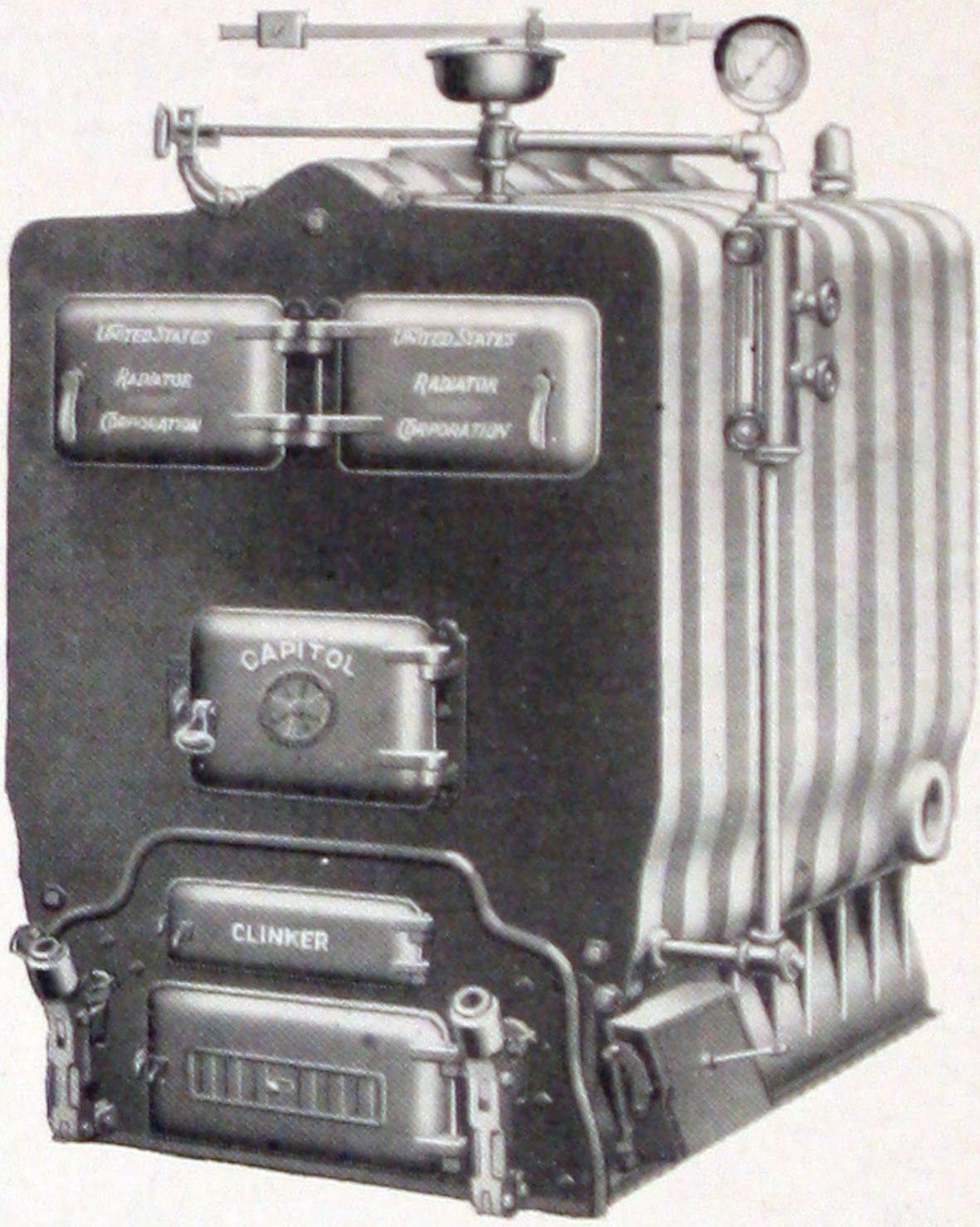
The above measurements are subject to slight variations in assembling.
Pit dimensions on page 19.

## ASSEMBLY

G276 F-S-M-M-X-B
G277 F-S-M-M-M-X-B
G278 F-S-M-T-M-V-X-B
G279 F-S-M-M-T-M-V-X-B

## KEY TO SECTIONS

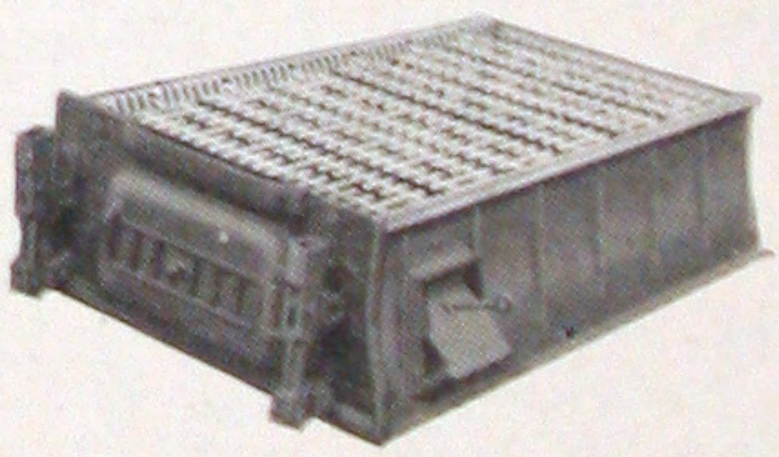
F—Front.
S—Tapped front flue with flow and water heater tappings.
M—Plain middle.
T—Tapped middle with flow tapping only.
V—Plain rear flue.
X—Tapped rear flue with flow and safety valve tappings.
B—Back.




No. 238
*Capitol*
*Steam*
*Boiler*

# Huge capacity in a compact boiler with great heating surface

Turn back to page 10. Described there is the advanced Capitol principle which places Series 230 alone among boilers guaranteed for heating radiating surfaces of 1200 to 2500 square feet with steam, and with water, 1980 to 4125 square feet.



*The Capitol Grate*

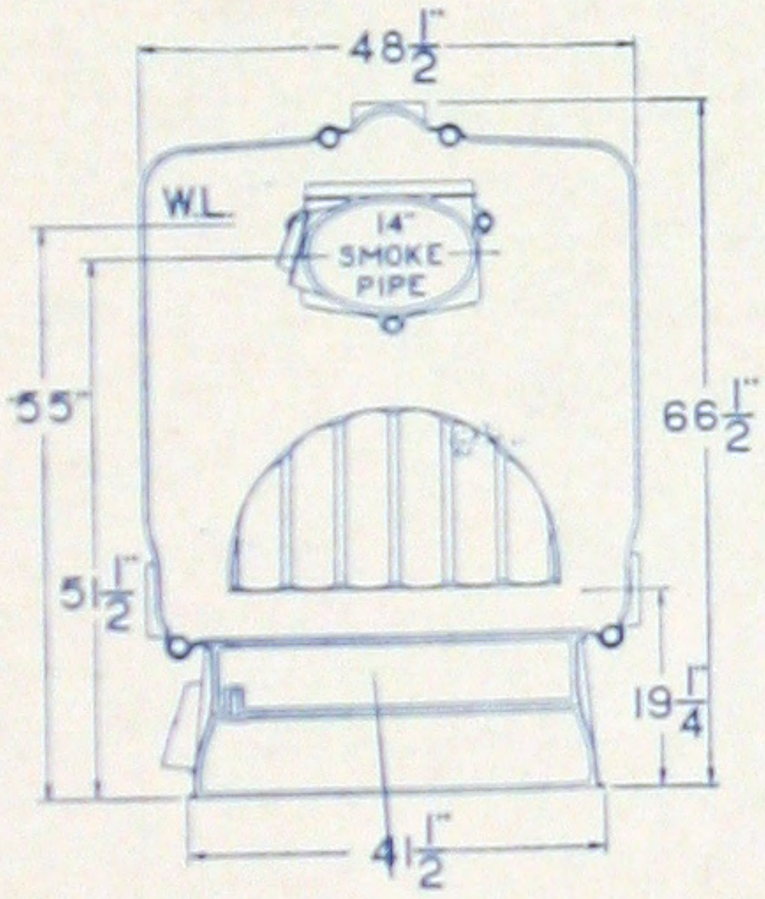
The Capitol grates deserve particular mention. A simple ratchet adjustment restricts them to a rocking action that sifts down all ash. With equal ease they may be turned nearly edgewise, dumping the fire. An ingenious method of anchoring them in place eliminates lost motion and the deafening noise so usual in shaking. And new grates may be dropped in through the large fire door. No dismantling is necessary.

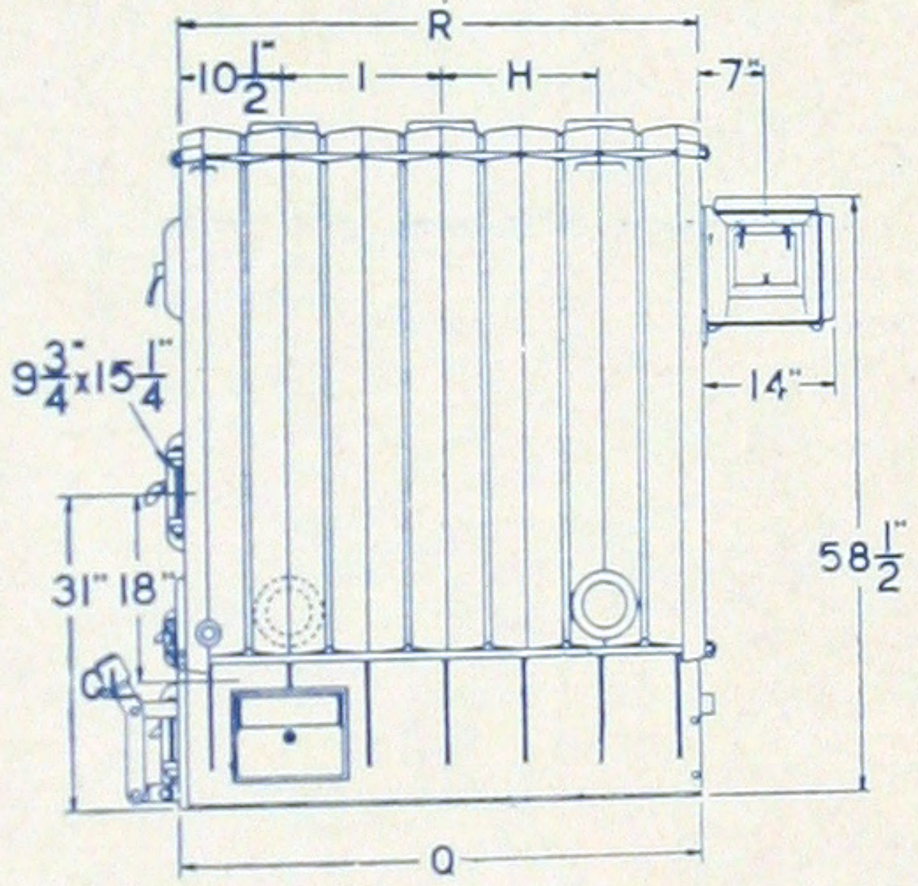
No. 238 *Capitol Water Boiler with front section removed*

# RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets and Inlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| 235 | 1200 | 1980 | 7.28 | 11.01 | 40 | 12 x 16 | 2—4″ |
| 236 | 1500 | 2475 | 9.11 | 13.75 | 45 | 12 x 16 | 2—4″ |
| 237 | 1800 | 2970 | 10.94 | 16.49 | 45 | 16 x 16 | 3—4″ |
| 238 | 2100 | 3465 | 12.77 | 19.22 | 50 | 16 x 16 | 3—4″ |
| 239 | 2400 | 3960 | 14.61 | 21.96 | 50 | 16 x 16 | 3—4″ |
| 240 | 2500 | 4125 | 16.44 | 24.70 | 60 | 16 x 16 | 4—4″ |

Inclusive of trimmings—HEIGHT 78 inches; WIDTH 58¼ inches.
Height of Water Line, 55 inches.
Equipped with combination top and back outlet smoke hood.
See Engineering Data book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




# MEASUREMENTS

| No. | H Inches | *H1 Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|---|
| 235 | .... | .... | 16 ¼ | 37 ⅞ | 37 ⅛ |
| 236 | .... | .... | 24 ⅜ | 45 ⅞ | 45 ¼ |
| 237 | 16 ¼ | .... | 16 ¼ | 53 ⅞ | 53 ⅜ |
| 238 | 24 ⅜ | .... | 16 ¼ | 61 ⅞ | 61 ½ |
| 239 | 24 ⅜ | .... | 24 ⅜ | 69 ⅞ | 69 ⅝ |
| 240 | 16 ¼ | 24 ⅜ | 16 ¼ | 77 ⅞ | 77 ¾ |

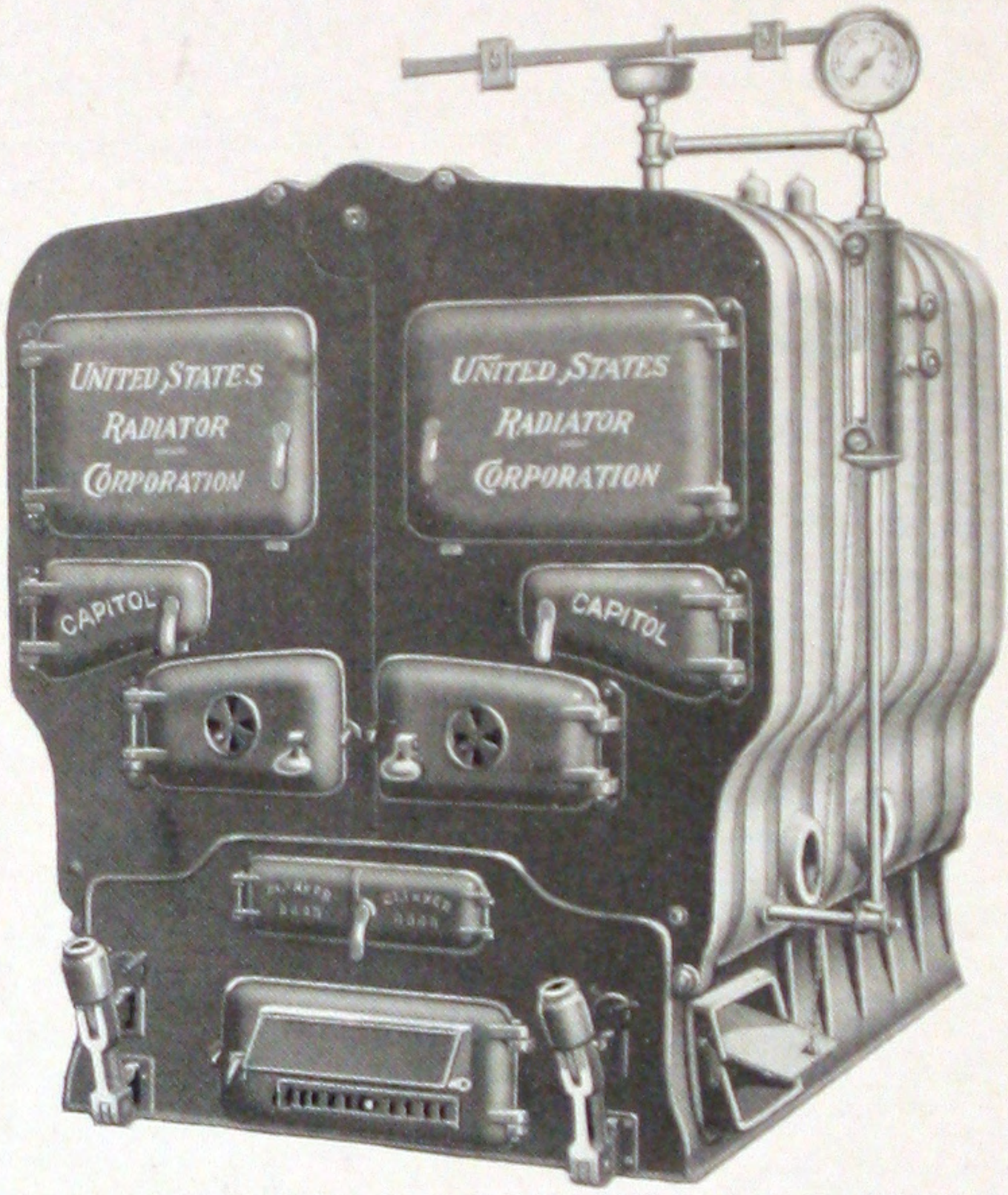
*H1—Distance between third and fourth tappings.
The above measurements are subject to slight variations in assembling.
Pit dimensions on page 19.

## ASSEMBLY

235 F-S-M-X-B
236 F-S-M-M-X-B
237 F-S-M-T-M-X-B
238 F-S-M-T-M-V-X-B
239 F-S-M-M-T-M-V-X-B
240 F-S-M-T-M-T-M-V-X-B

## KEY TO SECTIONS

F—Front.
S—Tapped middle with flow, return and water heater tappings.
M—Plain middle.
T—Tapped middle with flow and return tappings only.
V—Plain rear flue.
X—Tapped rear flue with flow, return, and safety valve tappings.
B—Back.



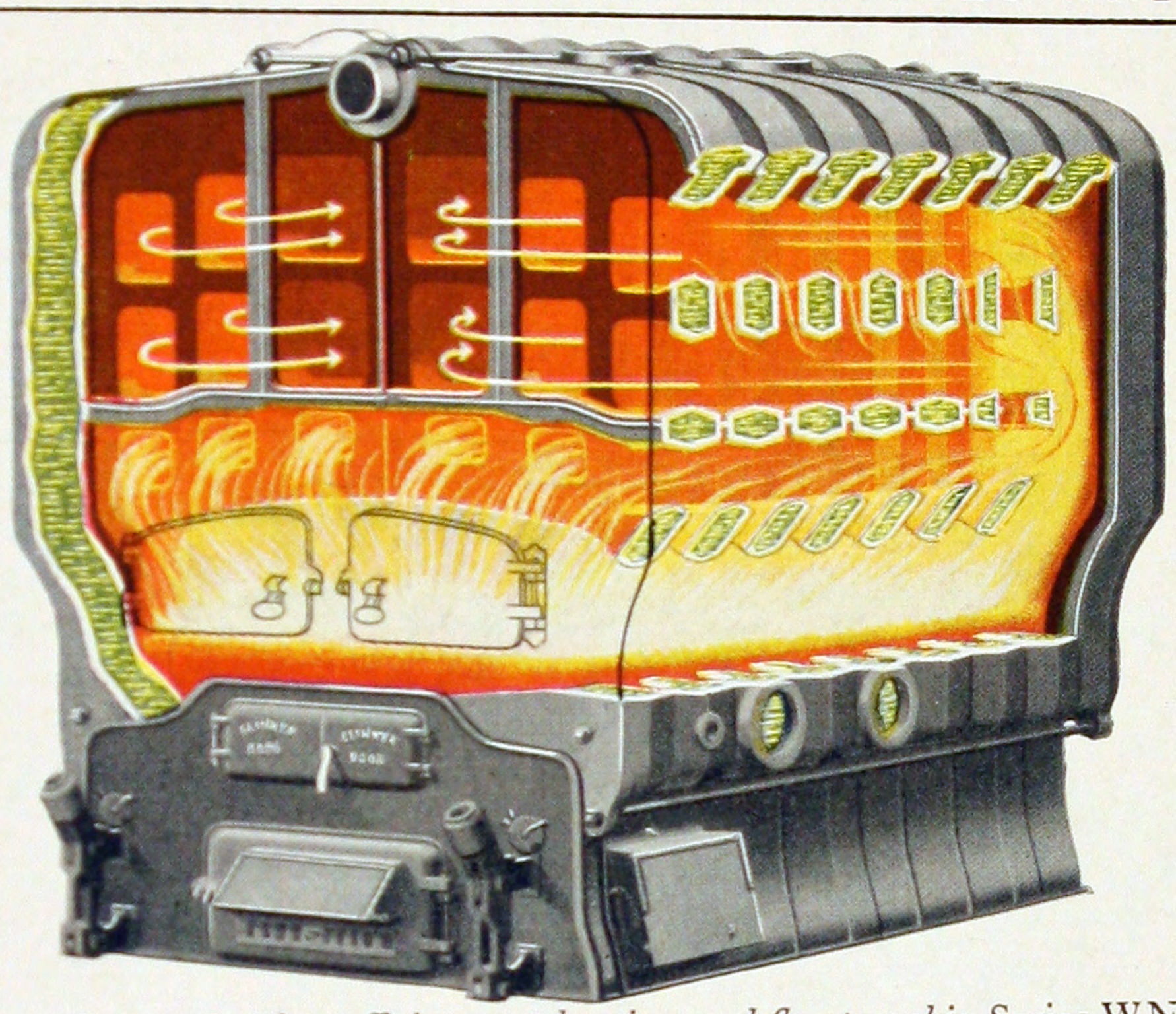

No. WN281
*Capitol*
*Steam*
*Boiler*

# Correctly designed and built for heavy duty work

It is not sufficient to use one design for an entire range of boiler sizes merely enlarging the pattern for each series as capacity increases. If you have studied the preceding pages you have noticed how every Capitol series varies in some particular from the one next in size. The variances are all based on long experience and exact knowledge of thermal efficiency.

In the WN270 series, the differences are especially marked. On the simple principle that a shallow pan of water boils much more rapidly than a deep pan, the flue ways are broken up into many sections. With a greater area of water exposed, a greater amount of heat is absorbed from the gases as they pass through the flues, and the building is more quickly warmed in the morning with less fuel.

As the heated gases rise they circle in and out, all around the extended arch with six self-cleaning flues in each double section. They pass toward the back. And up. And forward through side flues, divided into four passageways. And



*Sectional view showing efficient combustion and flue travel in* Series WN270

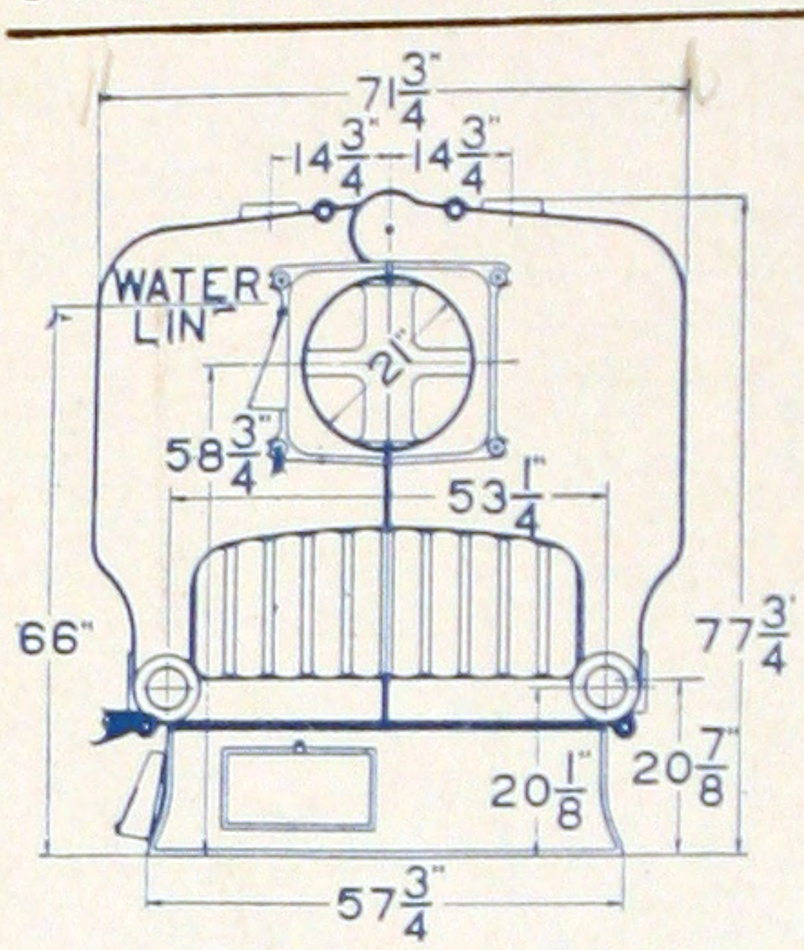
back again through two center flues, each divided into two passageways. When they finally leave the boiler they have given up the utmost heat to the water. The fuel wasted by ordinary boilers in heat escaping up the chimney is reduced to the vanishing point.

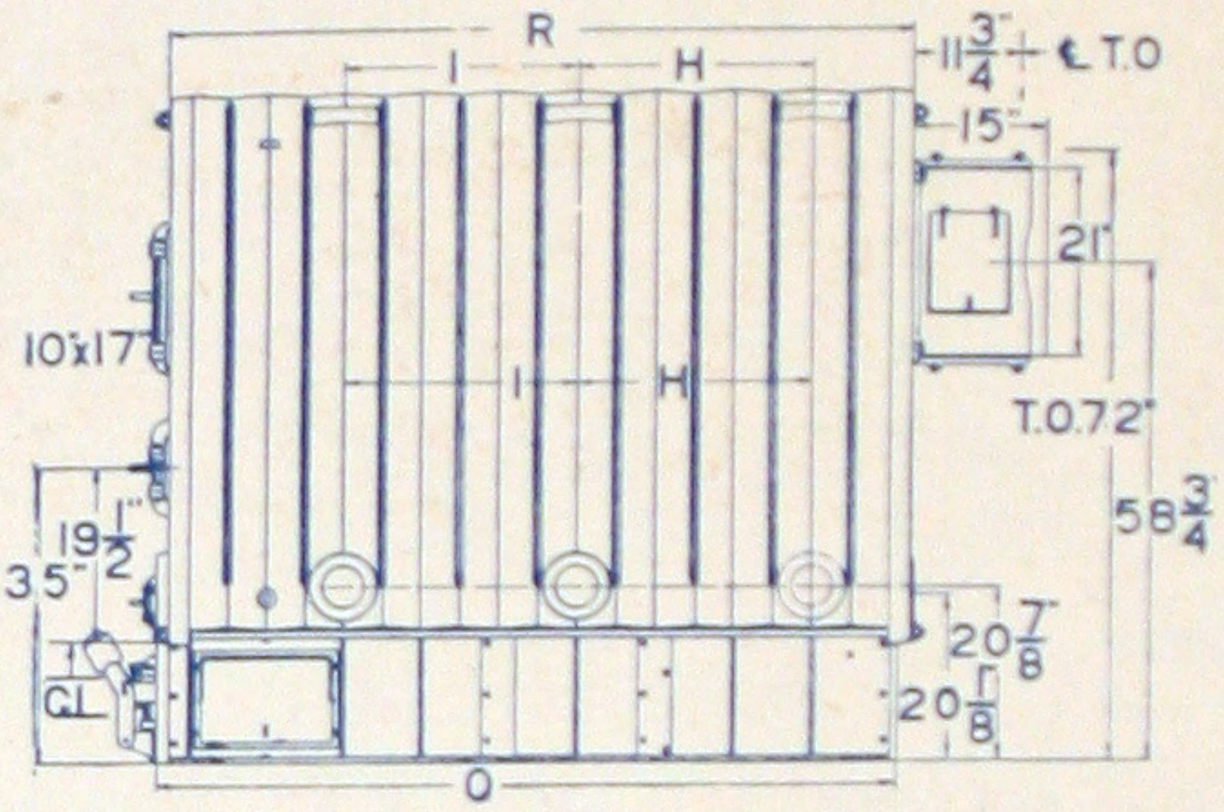
Series WN270 is guaranteed to heat 3700 to 8500 square feet of radiation by steam and 6105 to 14025 square feet by water.* In boilers of eleven sections or larger, a bridge-wall (which is designed for a fire-brick lining) is supplied.

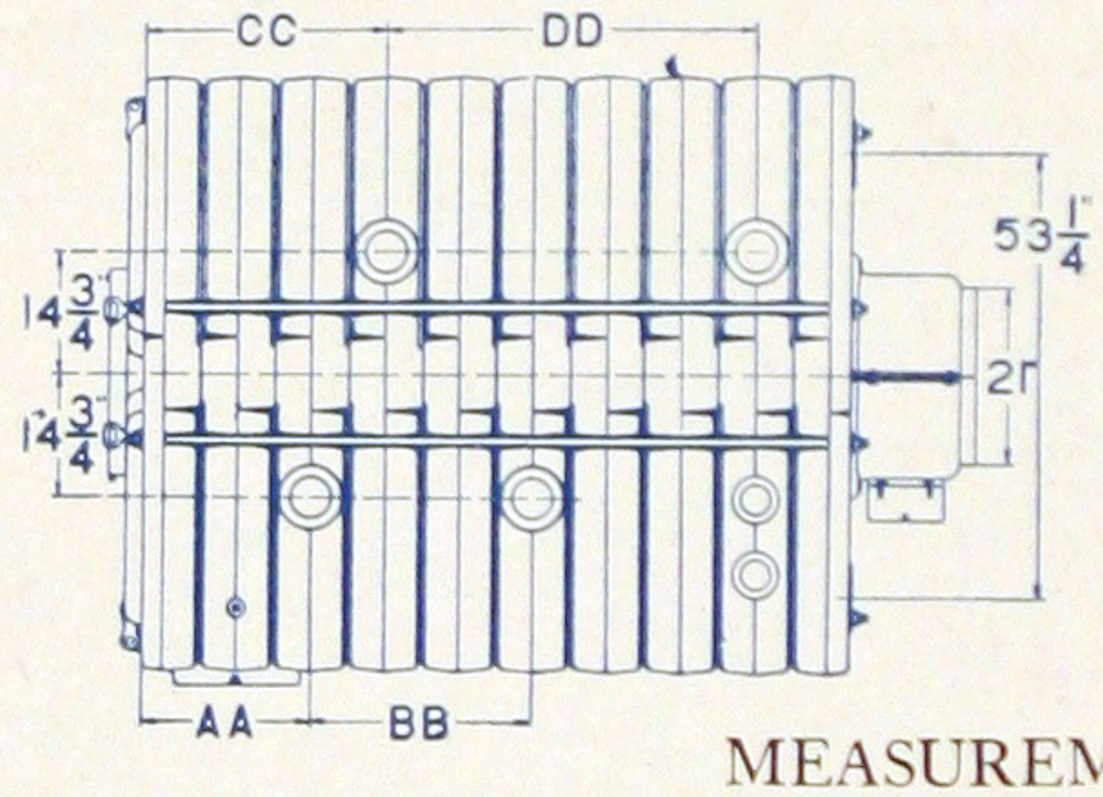
## RADIATOR LOADS *and* DIMENSIONS

| No. | Direct Cast Iron Radiator Loads* Sq.Ft. | | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Minimum Chimney Height Feet | Minimum Chimney Dimensions Inches | Outlets and Inlets |
|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | |
| WN276 | 3700 | 6105 | 15.25 | 24.66 | 50 | 20 x 24 | 3—5″ |
| WN277 | 4300 | 7095 | 18.29 | 29.67 | 55 | 24 x 24 | 3—5″ |
| WN278 | 4900 | 8085 | 21.33 | 34.68 | 60 | 24 x 24 | 3—5″ |
| WN279 | 5500 | 9075 | 24.37 | 39.69 | 60 | 24 x 24 | 4—5″ |
| WN280 | 6100 | 10065 | 27.41 | 44.71 | 65 | 24 x 28 | 4—5″ |
| WN281 | 6700 | 11055 | 30.45 | 45.96 | 70 | 28 x 28 | 4—5″ |
| WN282 | 7300 | 12045 | 30.45 | 47.21 | 70 | 28 x 28 | 4—5″ |
| WN283 | 7900 | 13035 | 30.45 | 48.46 | 75 | 28 x 32 | 5—5″ |
| WN284 | 8500 | 14025 | 30.45 | 49.72 | 80 | 32 x 32 | 5—5″ |

Inclusive of trimmings—HEIGHT 92 inches; WIDTH 82 inches.
Height of Water Line, 66 inches.
Specify whether back or top outlet smoke hood is required.
See Engineering Data book for size of chimney, for batteries of boilers and amount of asbestos cement required to insulate each size of boiler.
*See "Guaranteed Heating" Booklet.




*EE Distance between third and fourth tappings on boilers having four tappings on left side.

The above measurements are subject to slight variations in assembling.

Pit dimensions on page 19.

## MEASUREMENTS

| RIGHT SIDE | | | LEFT SIDE | | | | |
|---|---|---|---|---|---|---|---|
| No. | AA Inches | BB Inches | CC Inches | DD Inches | *EE Inches | K Inches | Q Inches |
| WN276 | 29 7/8 | .... | 11 5/8 | 27 3/8 | .... | 50 5/8 | 49 1/16 |
| WN277 | 29 7/8 | .... | 11 5/8 | 36 1/2 | .... | 59 3/4 | 58 1/16 |
| WN278 | 29 7/8 | .... | 11 5/8 | 45 5/8 | .... | 68 7/8 | 67 1/16 |
| WN279 | 20 3/4 | 18 1/4 | 11 5/8 | 54 3/4 | .... | 78 | 76 1/16 |
| WN280 | 29 7/8 | 18 1/4 | 11 5/8 | 63 7/8 | .... | 87 1/8 | 85 1/16 |
| WN281 | 29 7/8 | 27 3/8 | 11 5/8 | 73 | .... | 96 1/4 | 94 1/16 |
| WN282 | 29 7/8 | 27 3/8 | 11 5/8 | 82 1/8 | .... | 105 3/8 | 103 1/16 |
| WN283 | 29 7/8 | 45 5/8 | 11 5/8 | 45 5/8 | 48 5/8 | 114 1/2 | 112 1/16 |
| WN284 | 29 7/8 | 54 3/4 | 11 5/8 | 45 5/8 | 54 3/4 | 123 5/8 | 121 1/16 |

## Left Side—ASSEMBLY—Right Side

| | | |
|---|---|---|
| B-X-M-M-H-F | WN276 | F-R-M-T-Y-B |
| B-X-M-M-M-H-F | WN277 | F-R-M-T-M-Y-B |
| B-X-V-M-M-M-H-F | WN278 | F-R-M-T-M-V-Y-B |
| B-X-V-M-M-M-M-H-F | WN279 | F-R-T-M-T-M-V-Y-B |
| B-X-V-M-M-M-M-M-H-F | WN280 | F-R-M-T-M-T-M-V-Y-B |
| B-X-V-M-M-M-M-M-M-H-F | WN281 | F-R-M-T-M-M-T-M-V-Y-B |
| B-X-V-V-M-M-M-M-M-M-H-F | WN282 | F-R-M-T-M-M-T-M-V-V-Y-B |
| B-X-V-V-M-M-T-M-M-M-M-H-F | WN283 | F-R-M-T-M-M-M-M-T-V-V-Y-B |
| B-X-V-V-M-M-M-T-M-M-M-M-H-F | WN284 | F-R-M-T-M-M-M-M-M-T-V-V-Y-B |

## KEY TO SECTIONS

F—Front.

R—R. H. Middle with water column tappings.

H—L. H. Tapped middle with flow, return and water heater tappings.

M—Plain middle.

T—Tapped middle with flow and return tappings only.

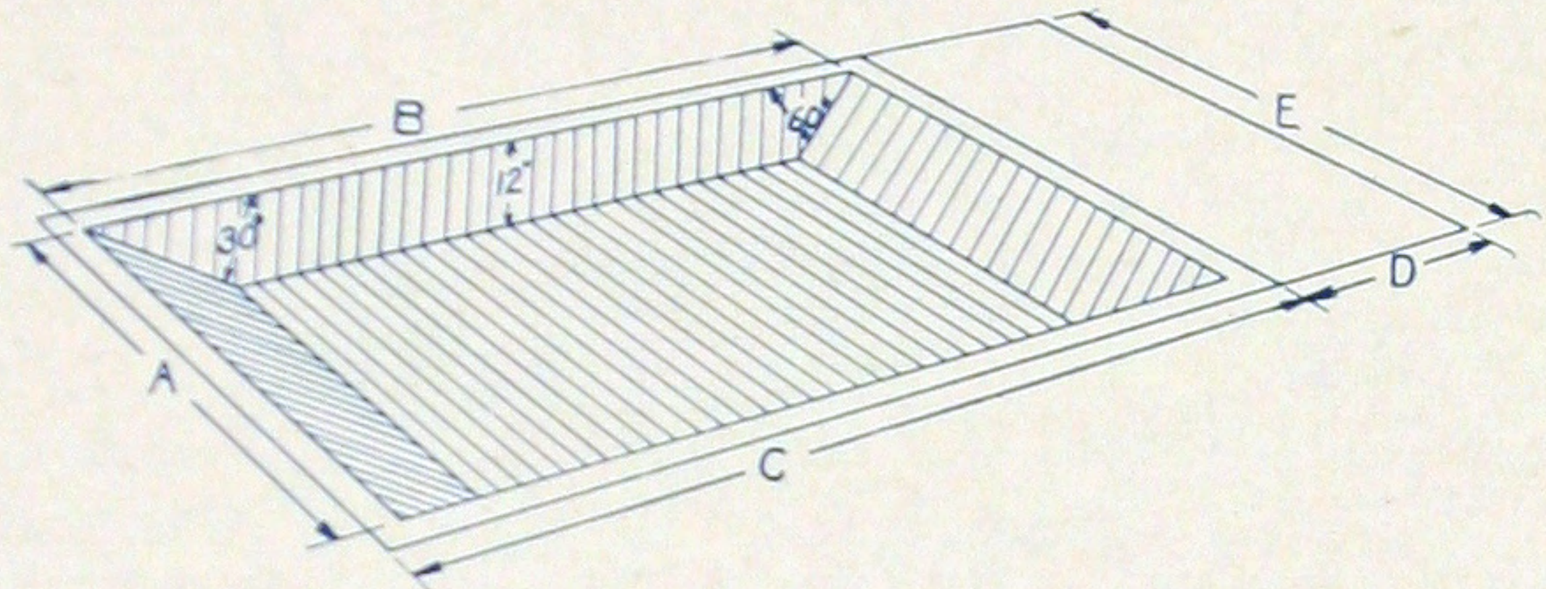
V—Plain rear flue

Y—Rear flue with safety valve tappings.

X—Tapped rear flue with flow and return tappings.

B—Back.

# PIT DIMENSIONS — CAPITOL SQUARE BOILERS




We recommend the construction of a pit similar to the above sketch with all Capitol smokeless boilers, as 95% of burned grates are directly traceable to the accumulation of ashes under grates. Complete dimensions are given below.

A—Width of pit. B—Length of pit.

C—Length of base of boilers not employing bridgewall, also distance from outside of front base plate to front side of bridgewall on boilers employing bridgewall.

D—Distance from front side of bridgewall to outside of rear base plate pertains to WN270 boilers that employ a bridgewall which shortens pit dimensions

E—Width of boiler base.

To provide proper foundation for boiler when basement floor is not laid, add 6 to 8 inches to dimensions C, D and E.

| No. | A—Inches | B—Inches | C—Inches | E—Inches |
|---|---|---|---|---|
| 184 | 19 ½ | 14 ½ | 20 ¾ | 25 ½ |
| 185 | 19 ½ | 20 ½ | 26 ¾ | 25 ½ |
| 186 | 19 ½ | 27 | 33 | 25 ½ |
| 187 | 19 ½ | 33 | 39 | 25 ½ |
| 204 | 23 | 18 | 24 | 28 ⅞ |
| 205 | 23 | 24 | 30 ¼ | 28 ⅞ |
| 206 | 23 | 30 ½ | 36 ½ | 28 ⅞ |
| 207 | 23 | 36 ½ | 42 ¾ | 28 ⅞ |
| 255 | 29 | 31 ½ | 37 ½ | 34 ⅞ |
| 256 | 29 | 39 ½ | 45 ½ | 34 ⅞ |
| 257 | 29 | 47 ½ | 53 ½ | 34 ⅞ |
| 258 | 29 | 55 ½ | 61 ½ | 34 ⅞ |
| G276 | 30 | 30 | 36 ¼ | 36 |
| G277 | 30 | 37 | 43 | 36 |
| G278 | 30 | 43 ½ | 49 ½ | 36 |
| G279 | 30 | 50 | 56 ¼ | 36 |
| 235 | 35 ½ | 32 | 38 ¼ | 41 ½ |
| 236 | 35 ½ | 40 | 46 ¼ | 41 ½ |
| 237 | 35 ½ | 48 | 54 ¼ | 41 ½ |
| 238 | 35 ½ | 56 | 62 ¼ | 41 ½ |
| 239 | 35 ½ | 64 | 70 ¼ | 41 ½ |
| 240 | 35 ½ | 72 | 78 ¼ | 41 ½ |
| 4106 | 41 | 38 | 47 ¼ | 47 |
| 4107 | 41 | 46 | 55 ¼ | 47 |
| 4108 | 41 | 54 | 63 ¼ | 47 |
| 4109 | 41 | 62 | 71 ¼ | 47 |
| 4110 | 41 | 70 | 79 ¼ | 47 |
| 4111 | 41 | 78 | 87 ¼ | 47 |

| No. | A—Inches | B—Inches | C—Inches | D—Inches | E—Inches |
|---|---|---|---|---|---|
| WN276 | 51 | 43 | 49 ¼ | .... | 57 ¾ |
| WN277 | 51 | 52 | 58 ¼ | .... | 57 ¾ |
| WN278 | 51 | 61 | 67 ¼ | .... | 57 ¾ |
| WN279 | 51 | 70 | 76 ¼ | .... | 57 ¾ |
| WN280 | 51 | 79 | 85 ¼ | .... | 57 ¾ |
| WN281 | 51 | 88 | 94 ¼ | .... | 57 ¾ |
| WN282 | 51 | 87 ½ | 93 ¾ | 9 ½ | 57 ¾ |
| WN283 | 51 | 87 ½ | 93 ¾ | 18 ½ | 57 ¾ |
| WN284 | 51 | 87 ½ | 93 ¾ | 27 ½ | 57 ¾ |

# UNITED STATES RADIATOR CORPORATION

General Offices, Detroit, Michigan

## BRANCH AND SALES OFFICES

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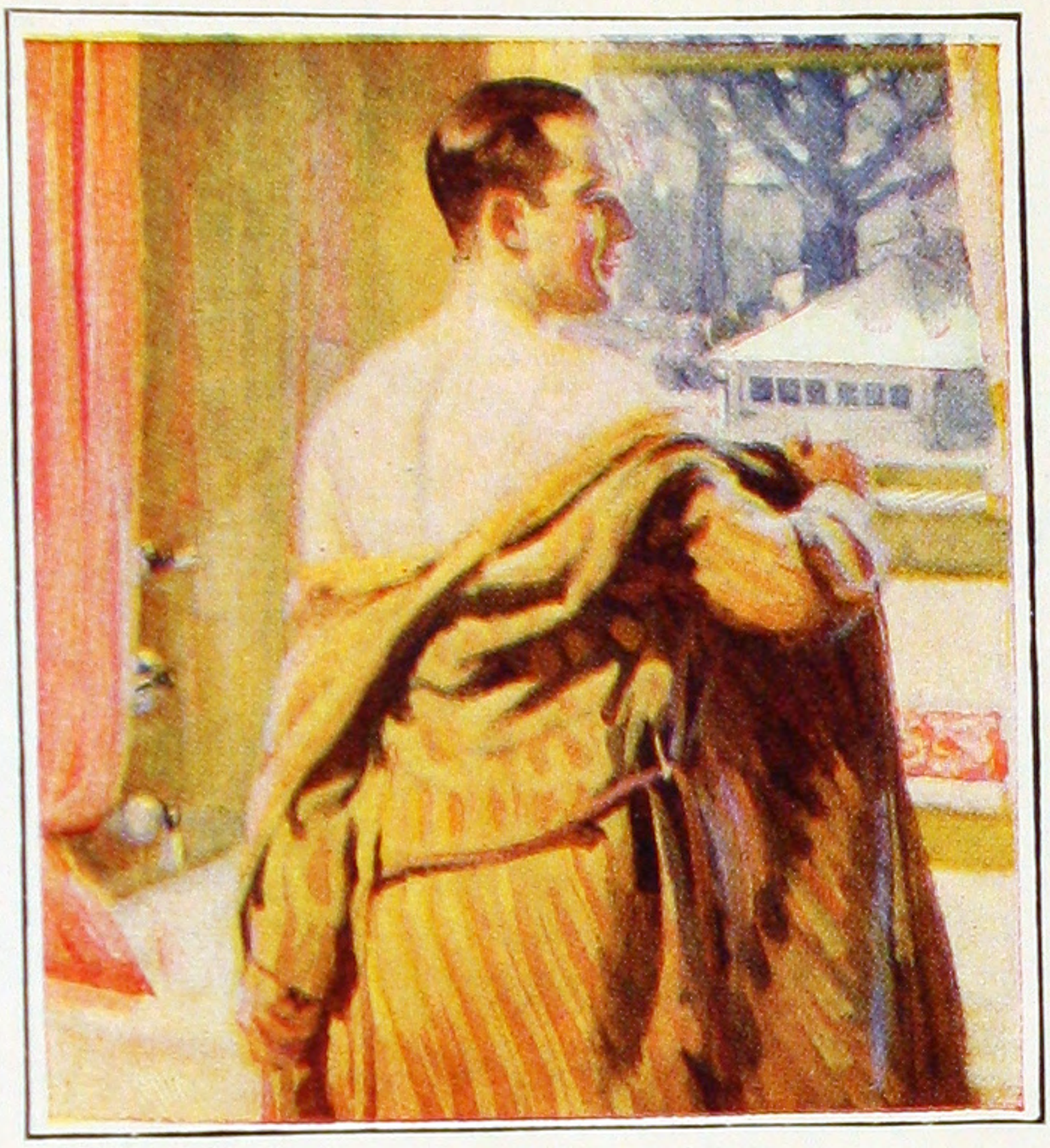
| *Boston | 136 Federal St. |
| *Portland, Me. | 2 Martyr St. |
| *Springfield, Mass. | North Main St. |
| *Providence | Allen's Ave., Foot of Oxford St. |
| *Troy | Center St., Green Island, N. Y. |
| *New Haven | New St. and Railroad Ave. |
| New York | 301 Architects Bldg. |
| *Brooklyn | 65 Forty-fifth St. |
| *Harrison, N. J. | Davis and Central Aves. |
| *Philadelphia | 220 South 16th St. |
| *Baltimore | 1147 Wicomico St. |
| Buffalo | 303 Crosby Bldg. |
| *Rochester, N. Y. | 64 Chester St. |
| Pittsburgh | 1008 Union Bank Bldg. |
| *Cleveland | 523 Guarantee Title Bldg. |
| *Columbus | 174 West Naghton St. |
| *Cincinnati | 1212 Exeter St. |
| Detroit | 517 Dime Savings Bank Bldg. |
| *Chicago | 500 North Dearborn St. |
| *Milwaukee | 168 Corcoran Ave. |
| *Indianapolis | 908 North Senate Ave. |
| *Louisville | 1631 West High St. |
| *Minnesota | 688 Hampden Ave., St. Paul |
| *St. Louis | 4004 Duncan Ave. |
| *Kansas City | 1405 West Eleventh St. |
| *Des Moines | 400 Southwest Ninth St. |
| *Omaha | 1017 North 21st St. |
| *Denver | 2439 Blake St. |
| *Seattle | 1248 First Ave., South |
| *Portland, Ore. | 16th, North and Thurman Sts. |
| *San Francisco | 640 Second St. |

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.—Detroit, Mich. — Dunkirk, N. Y. — Edwardsville, Ill. — Geneva, N. Y.—West Newton, Pa.

CHARLES DANIEL FREY, ADVERTISING, INC., CHICAGO



# Capitol

## *Dependable Smokeless*

# Boilers

UNITED STATES
RADIATOR CORPORATION

*Detroit, Michigan*

# CAPITOL

# DEPENDABLE SMOKELESS

# BOILERS

*United States Radiator Corporation*

DETROIT, MICHIGAN

WAREHOUSE STOCKS AND SERVICE IN ALL PRINCIPAL CITIES

*For 36 years, builders of dependable heating equipment*

# Guarantee

THE United States Radiator Corporation will give with each CAPITOL BOILER sold an absolute guarantee in writing that it will properly heat its full published amount of direct cast iron radiation, provided only that the boiler is connected to a correctly installed system and that the recognized standard requirements are followed. Should any CAPITOL BOILER not meet these conditions, the additional capacity necessary will be supplied without charge by the

*UNITED STATES RADIATOR CORPORATION*

# Smokeless certainty not dependent upon guesswork

## *Economical—always*

SMOKELESS combustion of bituminous coal at the lowest cost is now assured with a new degree of certainty by Capitol Smokeless Boilers.

"Smokeless" simply means complete combustion. And all of the carbon which forms smoke cannot be burned without the correct amount of air, oxygen.

The auxiliary inlets that supply air for completing combustion in Capitol Smokeless Boilers are not dependent upon the skill, guesswork or memory of the fireman.

**Mechanically measured air assures complete combustion**

Their size for each boiler rating is definitely determined in the Capitol Testing Laboratory and permanently fixed at the factory. They need no adjusting. The intensity of the fire itself governs the amount of air drawn in. To further assure accuracy, every Capitol auxiliary inlet is always an integral part of a single boiler section and is never placed between two sections where faulty assembly will cause a variance.

This mechanical precision of combustion which saves fuel and minimizes smokeless uncertainty is typical of every detail in the progressive design and careful construction of Capitol Smokeless Boilers.

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This mechanical precision of combustion which saves fuel and minimizes smokeless uncertainty is typical of every detail in the progressive design and careful construction of Capitol Smokeless Boilers.

**Lower water line saves foundation building costs**

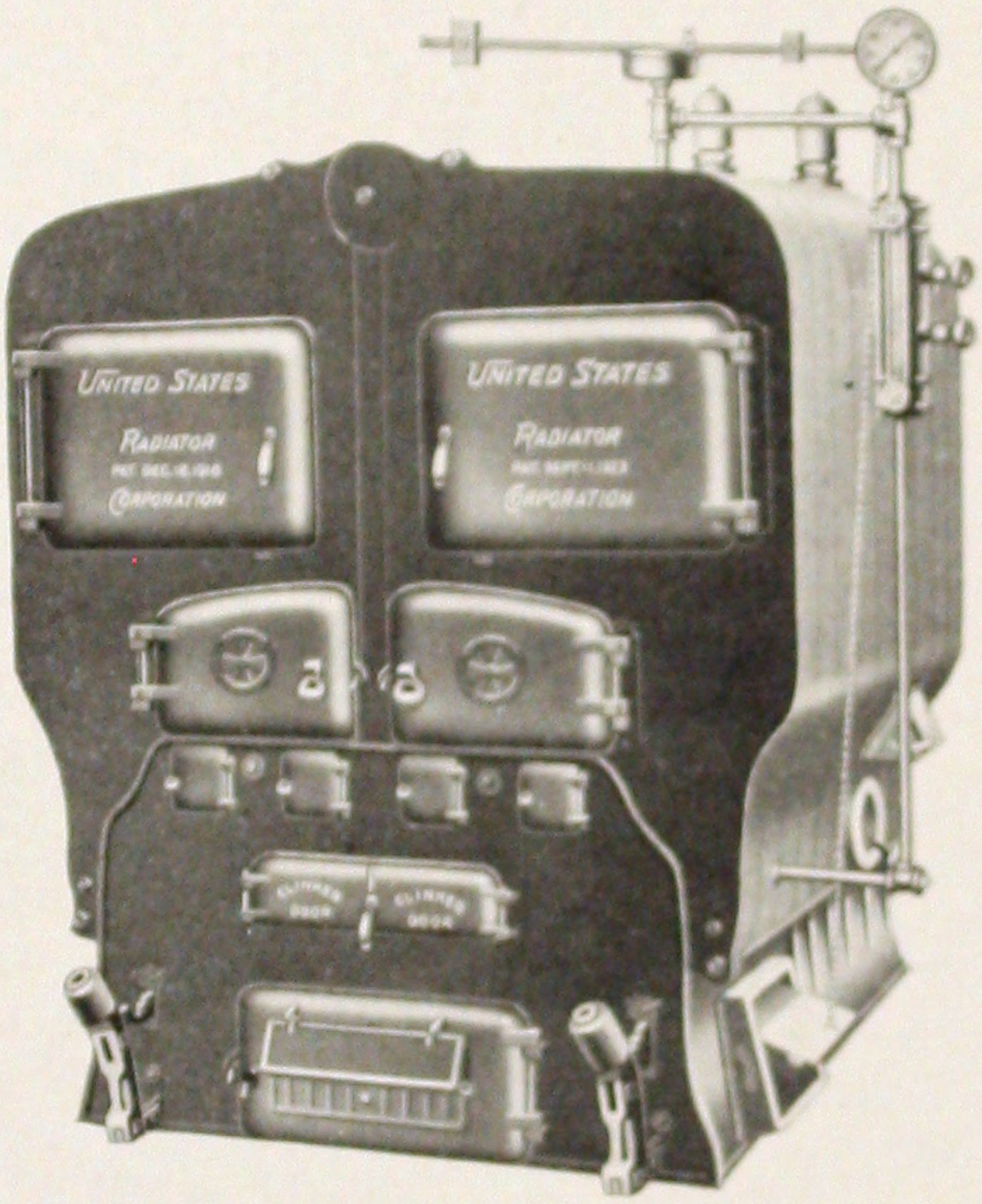
Great economies in foundation construction costs are made possible through a low water line. Capitol Boilers may be installed in boiler rooms with lower ceilings without the expense and trouble of pits.

Every Capitol Boiler is tested five times. Molten iron is drawn from the cupolas daily, examined under a microscope for grain, and tested for brittleness. Each section is given a water test in its rough casting form and again after machining, to guard against pinholes and imperfections. Then every boiler is completely assembled and given a final hydraulic test. One inspector does nothing but examine the doors for snugness of fit and no boiler can receive a serial number without his O. K. If every detail meets the Capitol standards the sections are numbered and a diagonal stripe is painted across the side, before it is knocked down and shipped. Assembly difficulties on the job are unknown.

**Capitol ratings are distinctly conservative**

Not least in importance are Capitol ratings. They are determined after repeated laboratory tests. Every rating is conservative and every Capitol Smokeless Boiler easily develops its full published capacity. These conservative ratings sometimes work to our detriment in competitive bidding but we would rather lose such orders than sacrifice the confidence of Capitol owners.

These are some of the reasons for the dependability and economy of Capitol Smokeless Boilers that have resulted from our 36 years of building reliable heating equipment. We hope you will bear them in mind when reading the following pages.




No. 1150
*Capitol*
*Smokeless*
*Boiler*

# Smokeless, economical heat for large buildings

For economy of fuel, ease of operation and dependable heat in buildings requiring 4,700 to 8,150 square feet with steam heat or 7,755 to 13,450 square feet with hot water, Capitol Series 50-inch Smokeless Boilers stand second to no other boiler.

Capitol assembly, testing, and marking insure correct installation. No more skill or attention is necessary to stoke them for the smokeless, low-cost consumption of all bituminous coals including lignite than is required to fire ordinary anthracite-burning boilers. The simple coking method of firing is all that is needed

(pushing a portion of the incandescent coals back and putting the green fuel in front).

The main air supply is admitted under the grates and through the fuel bed. After passing through four inches of live coals the oxygen in the air becomes exhausted. Additional air is taken from the ash pit, and drawn up through carefully proportioned and permanently fixed passages in the front of the boiler which open at a point just above the fuel bed.

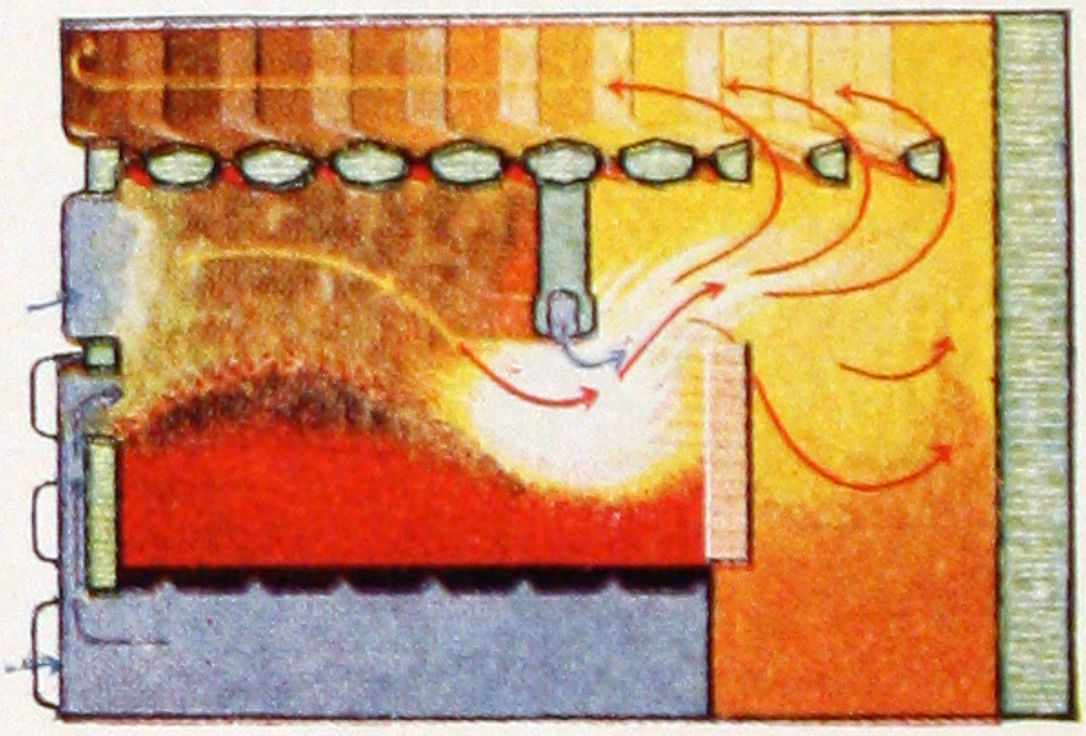
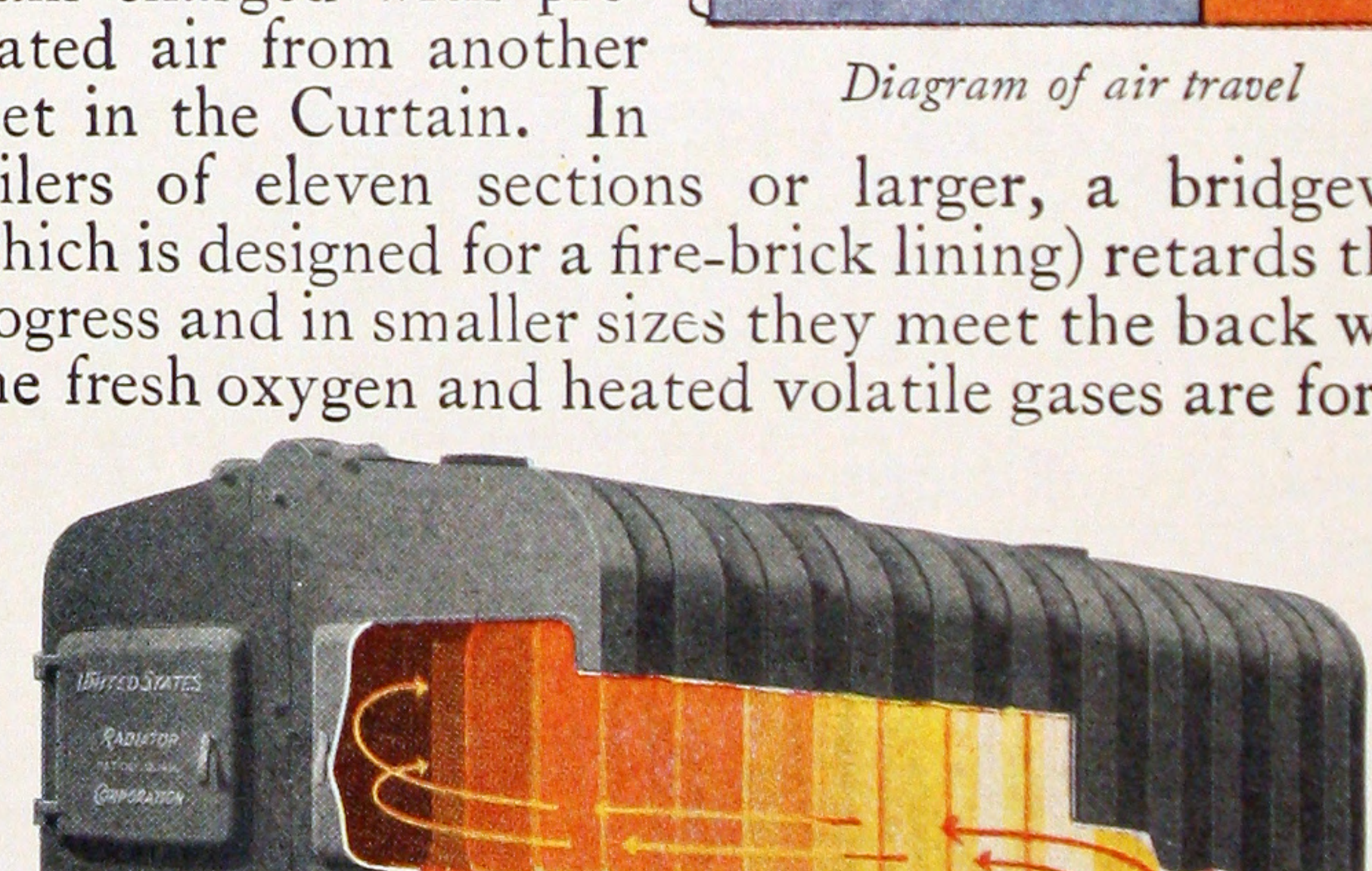


*Diagram of air travel*

As the heated air and volatile gases, distilled from the fuel, rush toward the back they are deflected downward by a Curtain section. Then, as they pass under, they are again charged with preheated air from another inlet in the Curtain. In boilers of eleven sections or larger, a bridgewall (which is designed for a fire-brick lining) retards their progress and in smaller sizes they meet the back wall. The fresh oxygen and heated volatile gases are forced




*Sectional view showing efficient combustion in 50-inch series*

## CAPITOL SMOKELESS BOILERS, 50-INCH SERIES

## RADIATOR LOADS and DIMENSIONS

| Boiler No. | *Direct Cast Iron Radiator Loads Sq. Ft. | | Height Water Line Inches | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Outlets and Inlets | Min. Chimney Sizes | |
|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | Height Ft. | Dimensions Inches |
| 750 | 4700 | 7755 | 66 | 18.29 | 29.67 | 3—5″ | 55 | 24 x 24 |
| 850 | 5350 | 8825 | 66 | 21.33 | 34.68 | 4—5″ | 60 | 24 x 24 |
| 950 | 5850 | 9655 | 66 | 21.33 | 34.68 | 4—5″ | 65 | 24 x 28 |
| 1050 | 6500 | 10725 | 66 | 24.37 | 39.69 | 5—5″ | 70 | 24 x 28 |
| 1150 | 7000 | 11550 | 66 | 24.37 | 39.69 | 6—5″ | 80 | 28 x 28 |
| 1250 | 7650 | 12620 | 66 | 27.41 | 44.71 | 6—5″ | 90 | 28 x 32 |
| 1350 | 8150 | 13450 | 66 | 27.41 | 44.71 | 6—5″ | 95 | 32 x 32 |

*See Guaranteed Heating.
Height including trimmings 92 inches; width 82 inches.
Specify if back or top outlet smoke hood is required.
See Engineering Data Book for chimneys for batteries of boilers, and amount of asbestos cement required to cover each size of boiler.

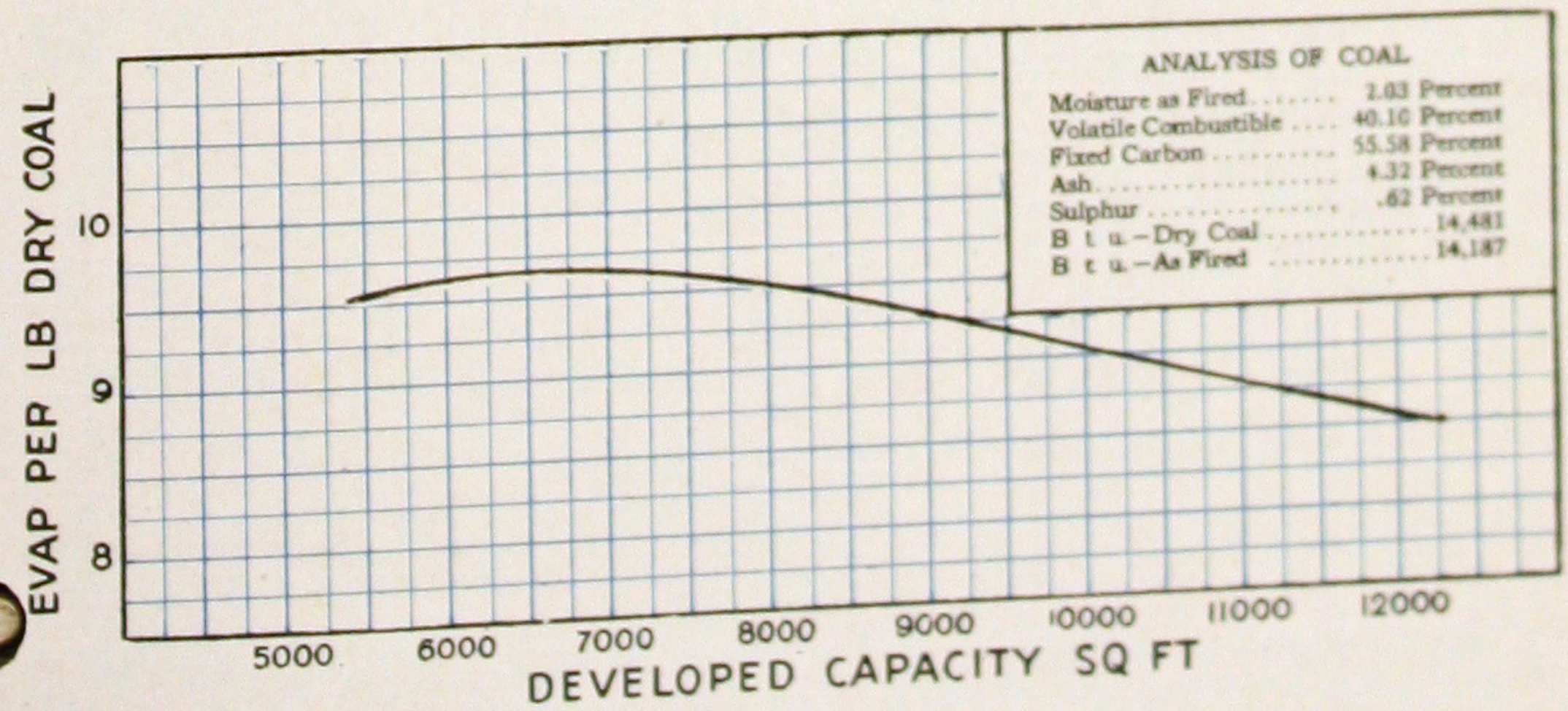
to thoroughly mix and complete combustion is secured.

Twice more, three times in all, the gases are forced to travel through flues the full length of the boiler in constant contact with the largest possible heating surface, giving up to the water the maximum number of heat units before passing out of the boiler.

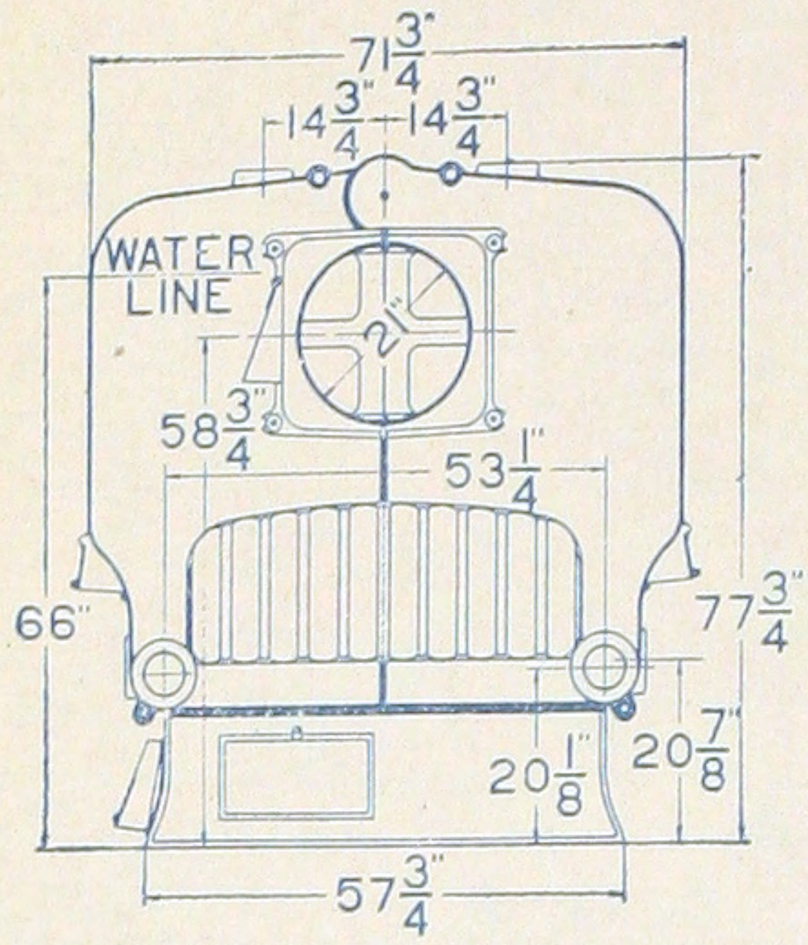
When the fire is banked at night, the deep fuel bed slowly cokes the coal forming an incandescent bed that ignites the fresh charge in the morning and enables the boiler to reach its full capacity, easily and quickly.

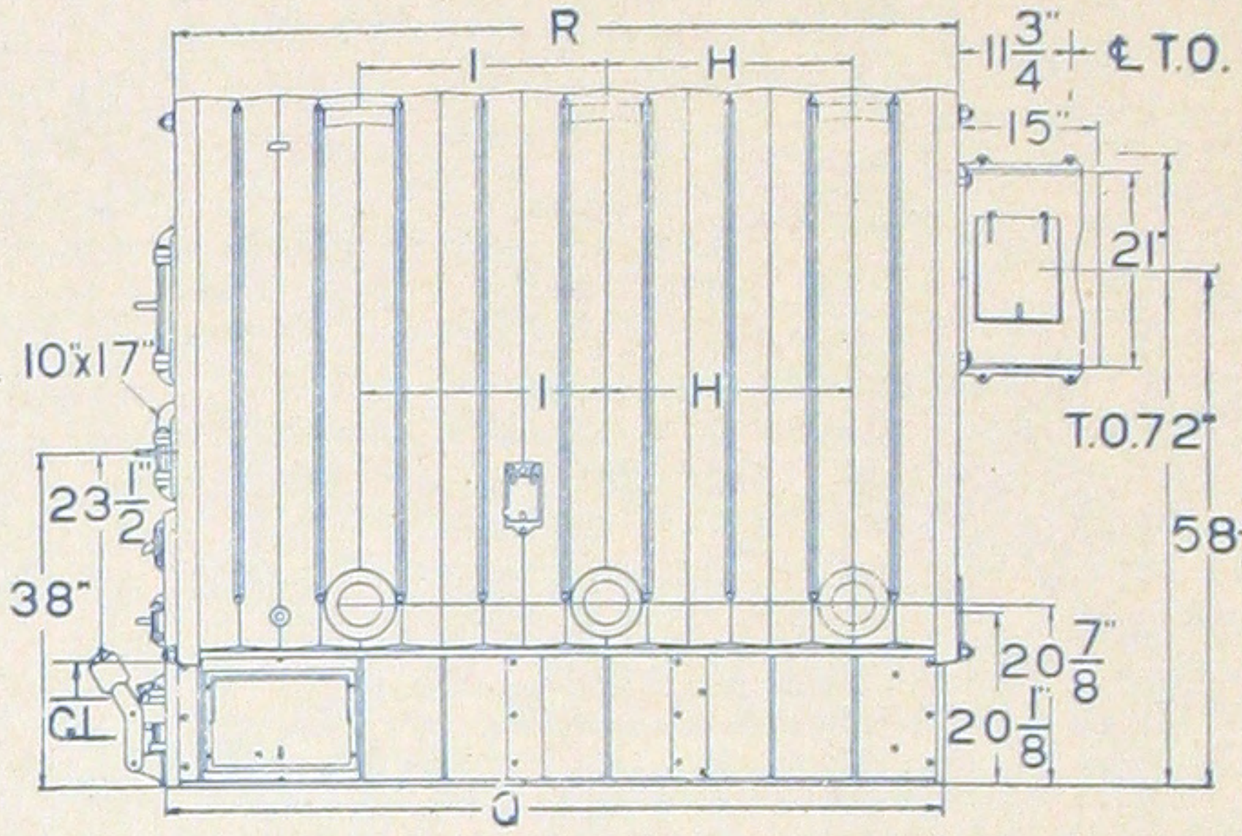
The efficiency of the 50-inch series of Capitol Smokeless Boilers is shown strikingly by the typical performance curve below. The chart is based on many individual tests and the ratings are fixed conservatively. Notice the high volatile coal used for these tests.

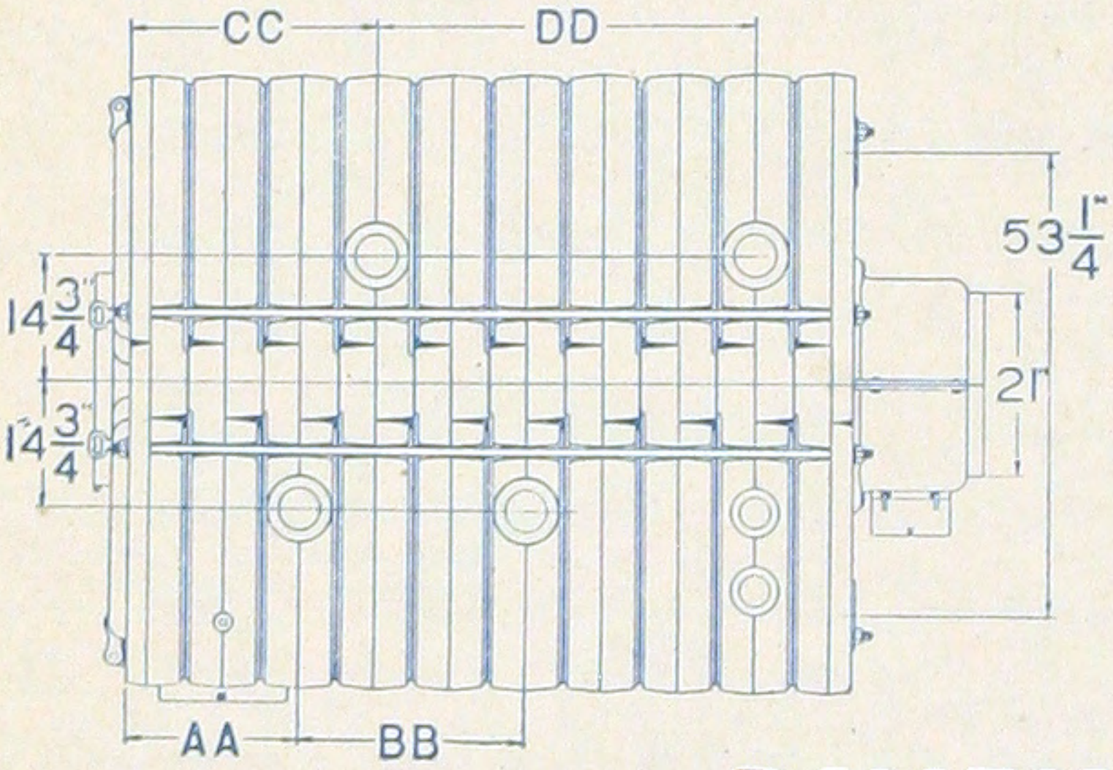
## PERFORMANCE CURVE No. 1150 CAPITOL BOILER



# CAPITOL SMOKELESS BOILERS, 50-INCH SERIES




*EE—Distance between second and third tappings on boilers having three tappings on left side.

*FF—Distance between second and third tappings on boilers having three tappings on right side.

The dimensions below are subject to slight variations in assembling.

## DIMENSIONS

| RIGHT SIDE | | | | LEFT SIDE | | | | |
|---|---|---|---|---|---|---|---|---|
| Boiler No. | AA Inches | BB Inches | *FF Inches | CC Inches | DD Inches | *EE Inches | R Inches | Q Inches |
| 750 | 20 3/4 | .... | .... | 29 7/8 | 18 1/4 | .... | 59 3/4 | 58 3/4 |
| 850 | 20 3/4 | 36 1/2 | .... | 29 7/8 | 18 1/4 | .... | 68 7/8 | 67 3/4 |
| 950 | 20 3/4 | 45 5/8 | .... | 29 7/8 | 27 3/8 | .... | 78 | 76 3/4 |
| 1050 | 20 3/4 | 27 3/8 | 27 3/8 | 29 7/8 | 27 3/8 | .... | 87 1/8 | 85 3/4 |
| 1150 | 20 3/4 | 18 1/4 | 36 1/2 | 29 7/8 | 36 1/2 | 18 1/4 | 96 1/4 | 94 3/4 |
| 1250 | 20 3/4 | 18 1/4 | 36 1/2 | 29 7/8 | 36 1/2 | 27 3/8 | 105 3/8 | 103 3/4 |
| 1350 | 29 7/8 | 18 1/4 | 36 1/2 | 39 | 36 1/2 | 27 3/8 | 114 1/2 | 112 3/4 |

*Pit dimensions for these boilers are shown on page 15.*

## ASSEMBLY

| LEFT | | RIGHT |
|---|---|---|
| B-X-C-T-M-L-F- | 750 | F-A-T-M-C-Y-B- |
| B-V-X-C-T-M-L-F- | 850 | F-A-T-M-C-Y-X-B- |
| B-V-X-M-C-T-M-L-F- | 950 | F-A-T-M-C-M-Y-X-B- |
| B-V-V-X-M-C-T-M-L-F- | 1050 | F-A-T-M-C-T-Y-V-X-B- |
| B-X-V-X-M-C-M-T-M-L-F- | 1150 | F-A-T-M-T-C-M-Y-X-V-B- |
| B-X-V-V-X-M-C-M-T-M-L-F- | 1250 | F-A-T-M-T-C-M-Y-X-V-V-B- |
| B-X-V-V-X-M-C-M-T-M-N-L-F- | 1350 | F-A-N-T-M-T-C-M-Y-X-V-V-B- |

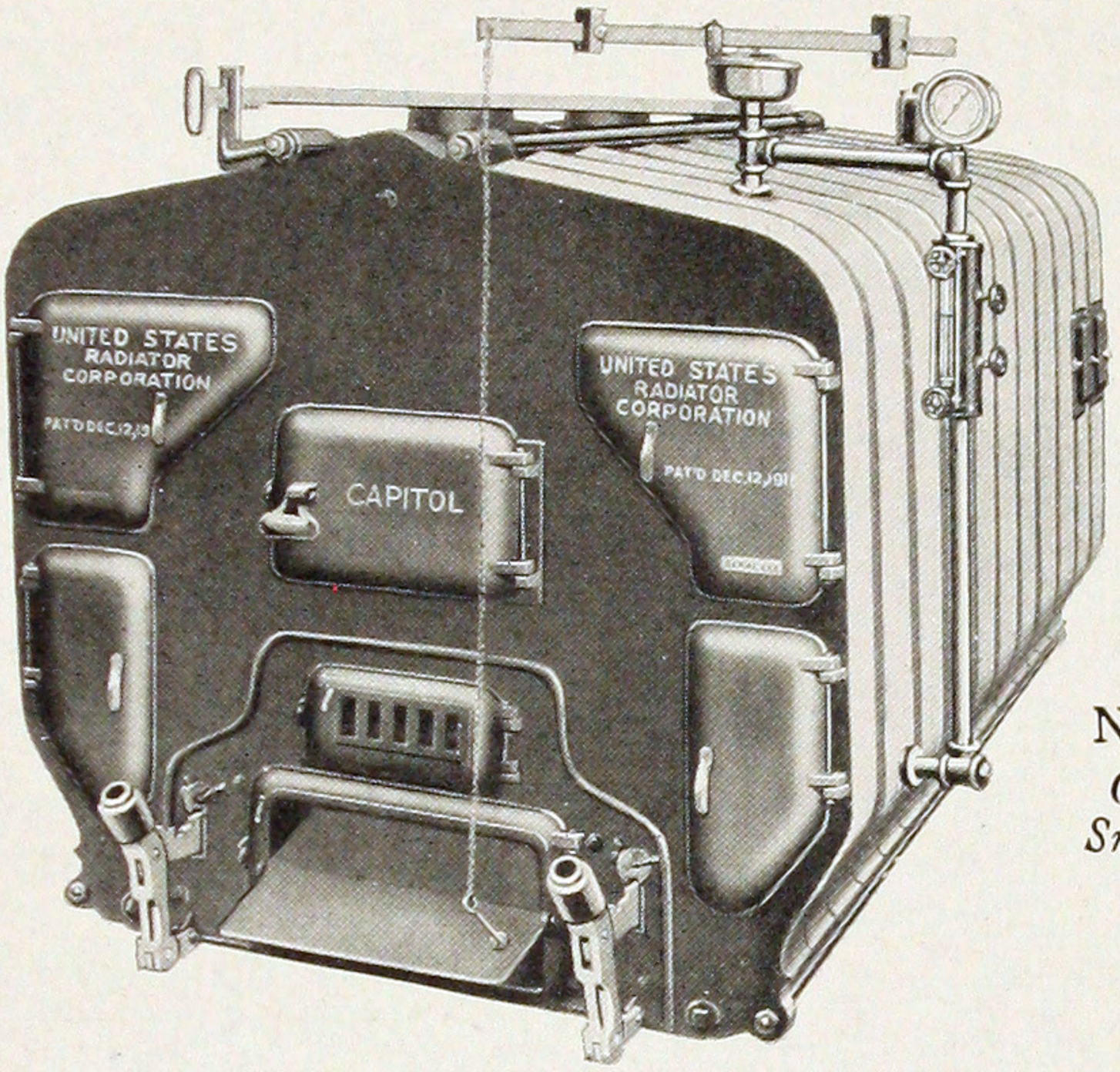
## KEY TO SECTIONS

F—Front. B—Back. C—Curtain.
A—R. H. Front Flue with water column tappings.
L—L. H. Front Flue with water heater tapping.
N—Plain Front Flue.
M—Plain Middle.
T—Tapped Middle with flow and return tappings only.
Y—R. H. Rear Flue with Safety Valve Tappings.
V—Plain Rear Flue.
X—Tapped Rear Flue with flow and return tappings only.

## TAPPINGS

5″ Flow and return tappings are located on T and X sections.
A 3″ Flow tapping is provided on the L section for hot water supply heater.

# CAPITOL SMOKELESS BOILERS, 40-INCH SERIES

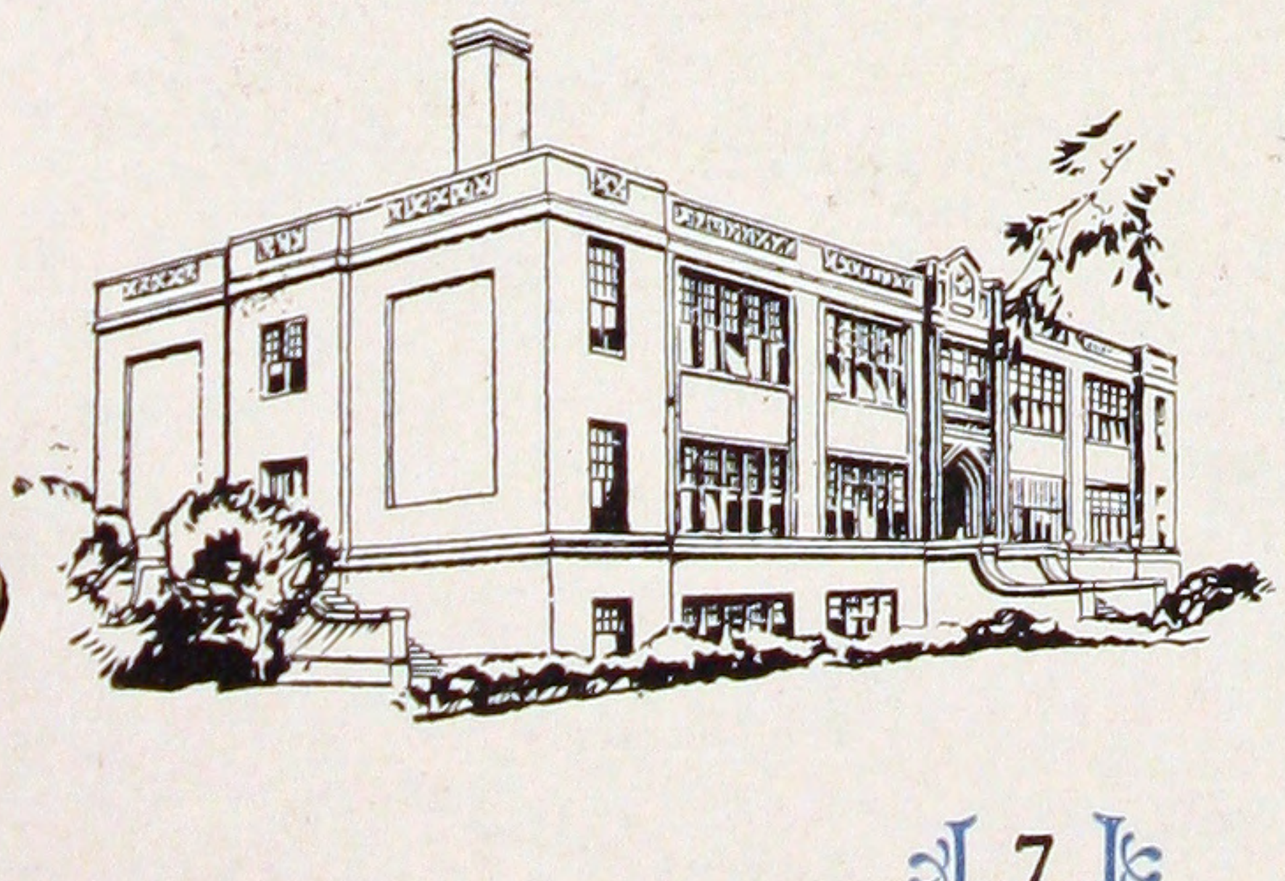



No. 1140
*Capitol*
*Smokeless*
*Boiler*

## For highest heating efficiency and lowest water line

The Capitol Testing Laboratory has gone even farther than designing the most efficient smokeless boilers known. The 40-inch series has a 49-inch water line. No lower water line is necessary for any room with a ceiling high enough to allow men to work.

Not only fuel is saved; building costs are cut. No pit is needed. Construction savings alone, particularly where water in the basement must be guarded against and where foundations must be cut in rock, frequently pay for the entire heating plant. For large installations in such locations a tandem of 40-inch Capitol Boilers is often used in preference to a single boiler of larger size.



Important as this exclusive advantage is, however, it is second-

ary to the remarkable economy that results from the efficient operation of the Capitol 40-inch series.

With no pit required and no base section on this boiler, installation is simplified. Any bituminous coal or lignite may be used successfully; burned economically and smokelessly by any ordinary fireman.

Auxiliary air is admitted just above the fuel bed through passageways cast across the entire width of the front boiler section. The size of the air passages are correctly proportioned by the Capitol Testing Laboratory and need no adjusting. The greater portion of the air is taken from the ash pit. The remainder enters the passageways through openings in the clinker door. The amount of air drawn in is automatically regulated to the rate of combustion in the exact amounts required.

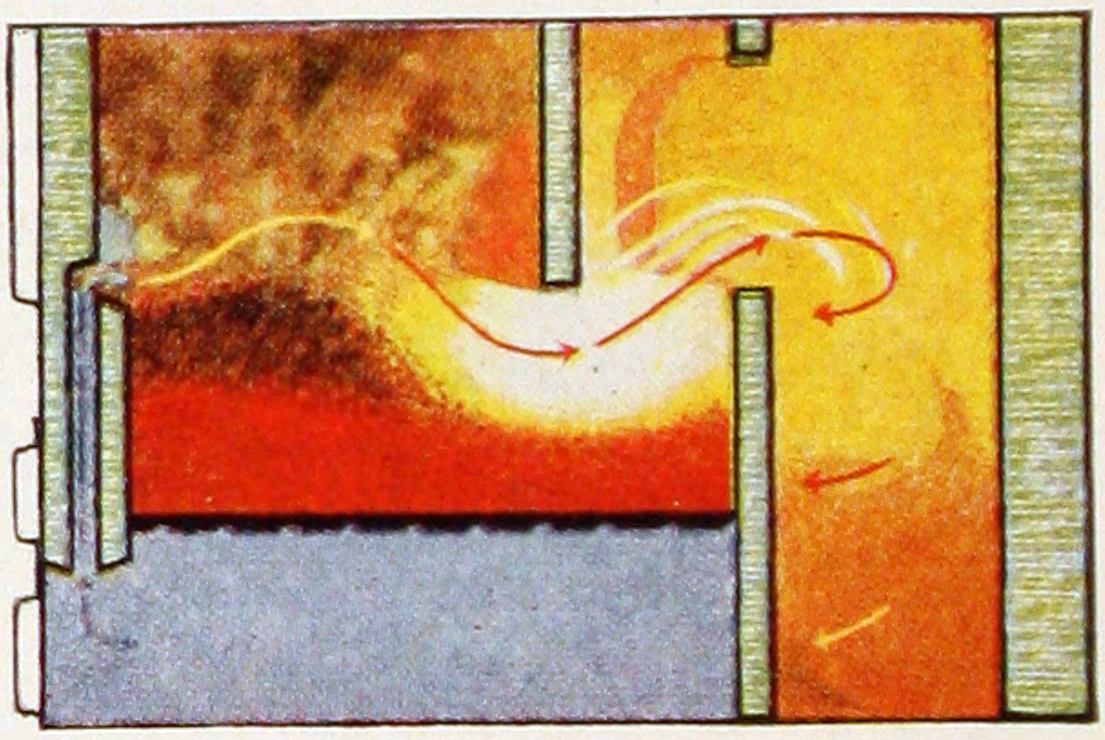
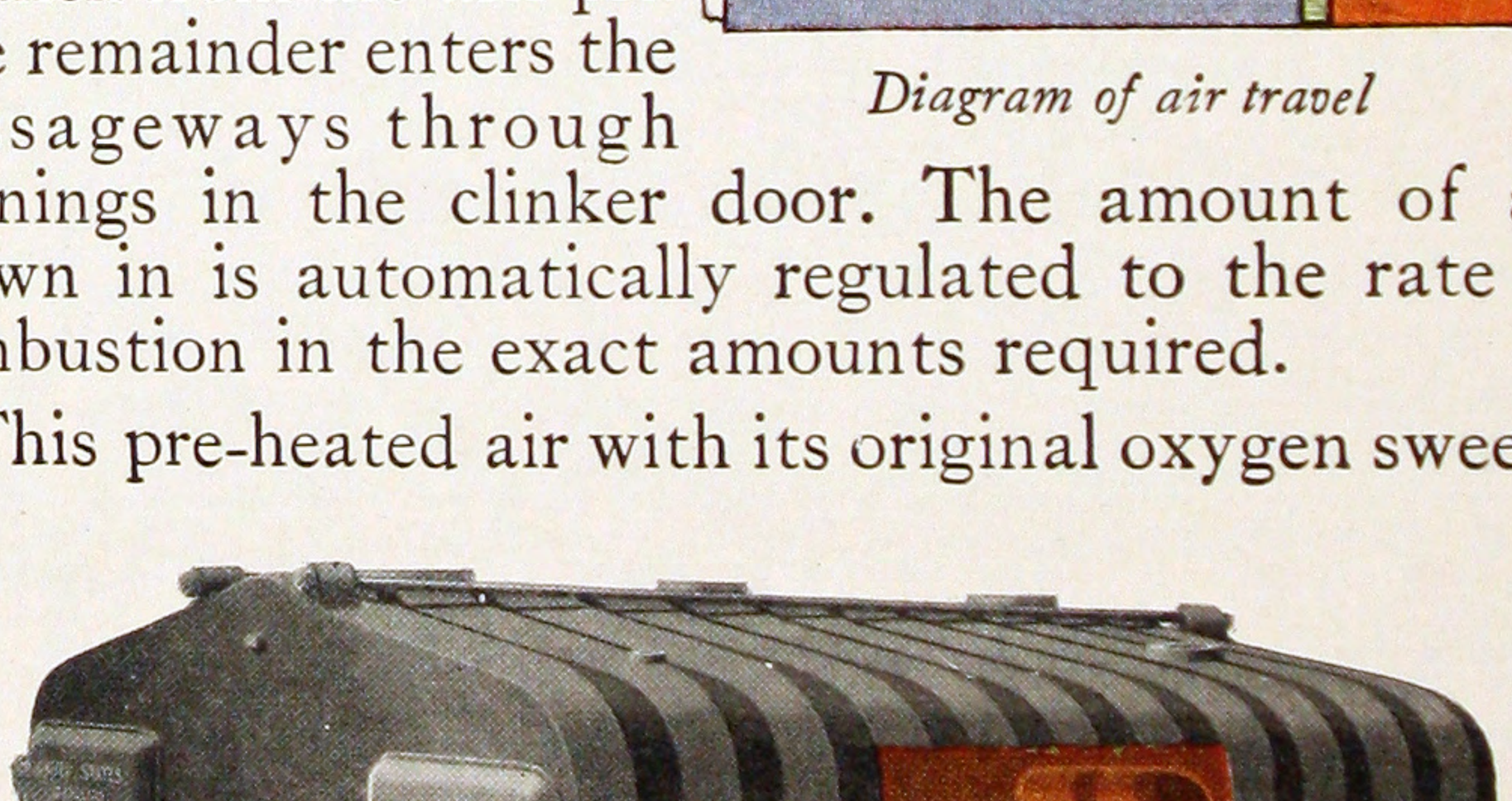


*Diagram of air travel*

This pre-heated air with its original oxygen sweeps




*Sectional view showing efficient combustion in 40-inch series*

## CAPITOL SMOKELESS BOILERS, 40-INCH SERIES

## RADIATOR LOADS and DIMENSIONS

| Boiler No. | *Direct Cast Iron Radiator Loads Sq. Ft. | | Height of Water Line Inches | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Outlets | Min. Chimney Sizes | |
|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | Height Ft. | Dimensions Inches |
| 740 | 2500 | 4125 | 49 | 8.15 | 10.40 | 2—5″ | 50 | 18 x 18 |
| 840 | 3000 | 4950 | 49 | 10.31 | 13.30 | 2—5″ | 55 | 18 x 20 |
| 940 | 3500 | 5775 | 49 | 10.31 | 13.30 | 2—5″ | 60 | 20 x 20 |
| 1040 | 4050 | 6680 | 49 | 12.47 | 16.30 | 3—5″ | 65 | 20 x 24 |
| 1140 | 4500 | 7425 | 49 | 14.63 | 19.25 | 3—5″ | 70 | 24 x 24 |
| 1240 | 4900 | 8085 | 49 | 14.63 | 19.25 | 3—5″ | 70 | 24 x 28 |
| 1340 | 5400 | 8910 | 49 | 16.79 | 22.20 | 3—5″ | 75 | 24 x 28 |

*See Guaranteed Heating.
Height including trimmings 71 inches; width 75 inches.
Equipped with combination top and back outlet smoke hood.
See Engineering Data Book for chimneys, for batteries of boilers, and amount of asbestos cement required to cover each size of boiler.

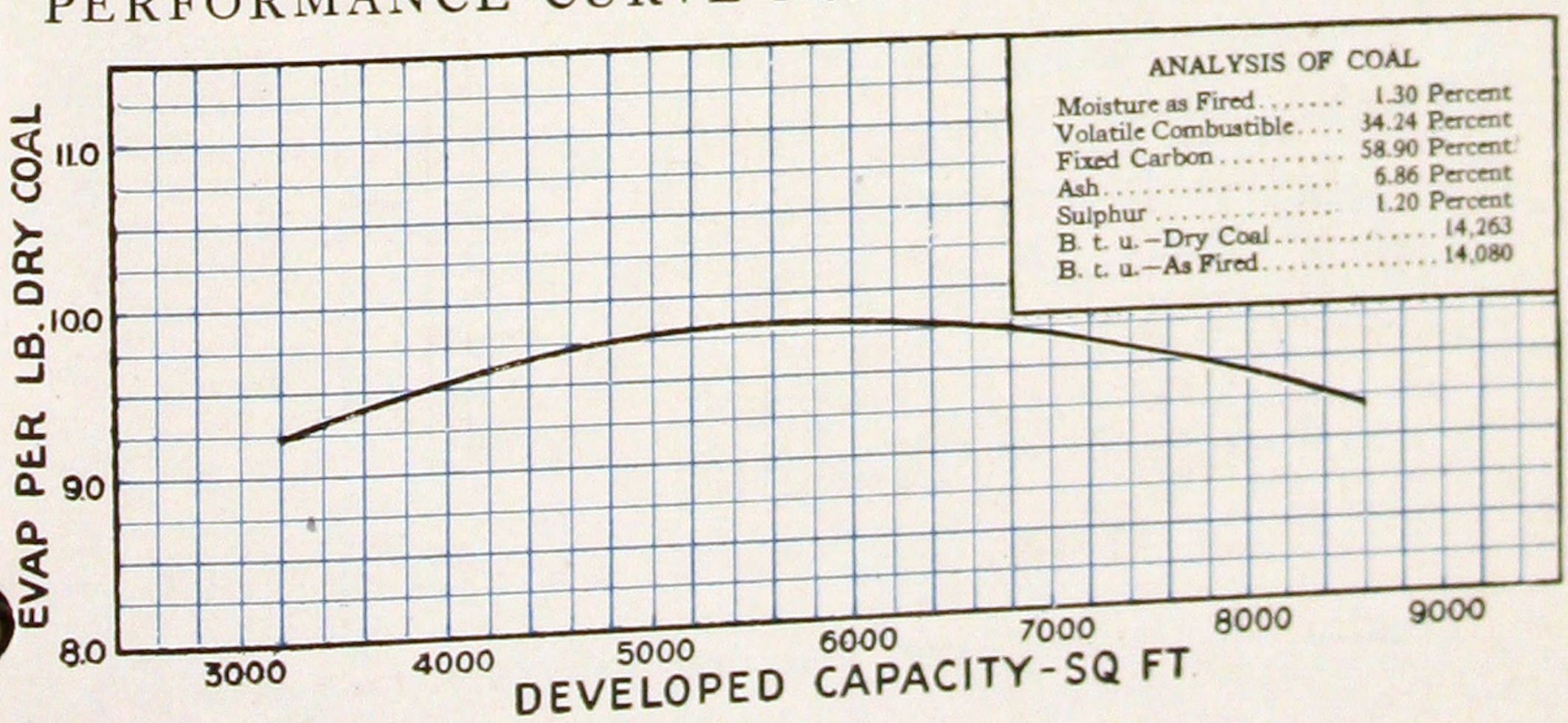
across the fuel bed until it reaches a water-containing Curtain cast in a section near the back, which forces it to mingle with the gases as they pass beneath it.

Then they hit the lower, solid portion of a water-filled bridgewall (which requires no fire-brick), mix completely, and every smoke-producing particle is turned into heat before the gases pass through two openings in the upper portion of the bridgewall.

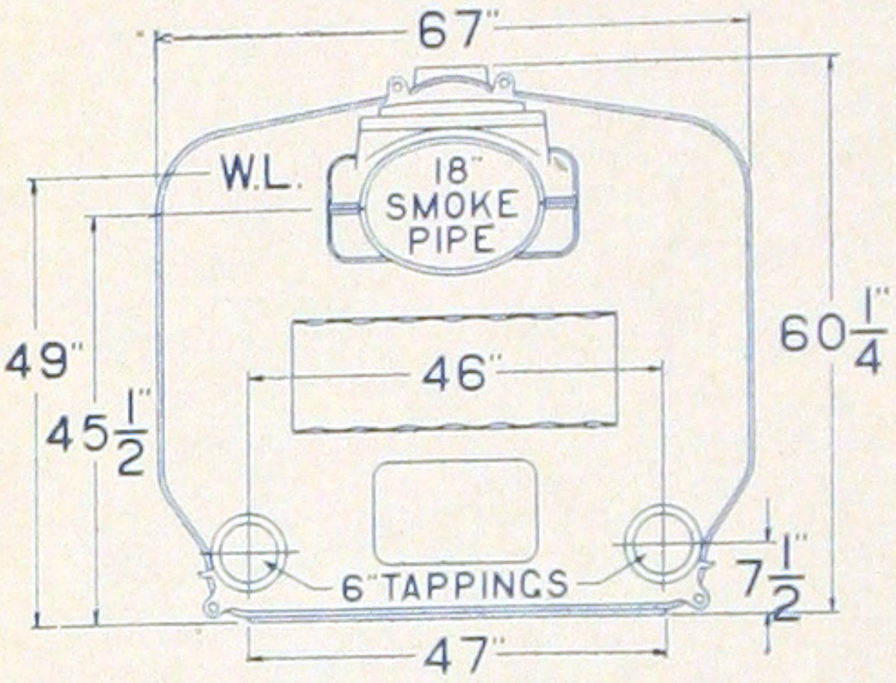
Back to the front of the boiler they must go, through two bottom flues and then return through two top flues, heating water every inch of the way, before they pass out of the boiler.

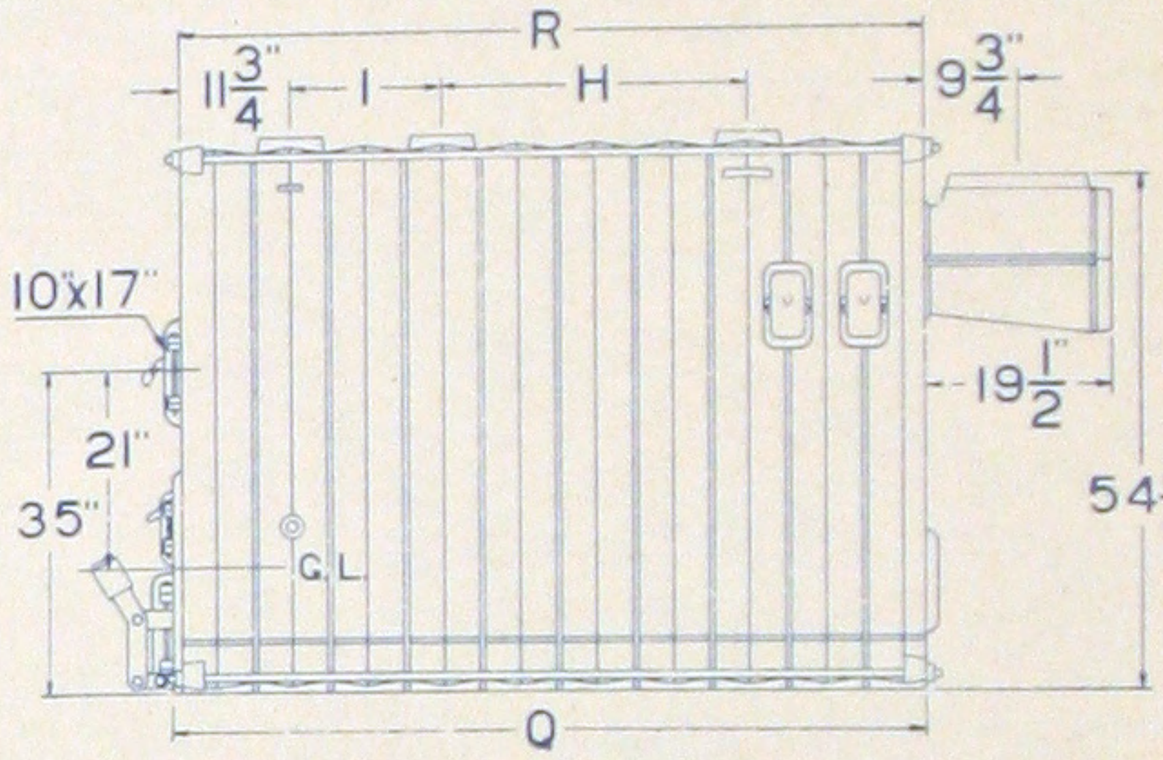
Without the foregoing facts the performance chart shown below might be hard to believe. Any fair test will substantiate this curve of efficiency that has no equal in the smokeless boiler field.

### PERFORMANCE CURVE No. 1140 CAPITOL BOILER



# CAPITOL SMOKELESS BOILERS, 40-INCH SERIES




## DIMENSIONS

| Boiler No. | H Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|
| 740 | .. | 32 | 54-15/16 | 54-1/16 |
| 840 | .. | 40 | 62-15/16 | 62-1/16 |
| 940 | .. | 40 | 70-15/16 | 70-1/16 |
| 1040 | 32 | 16 | 78-15/16 | 78-1/16 |
| 1140 | 32 | 24 | 86-15/16 | 86-1/16 |
| 1240 | 24 | 32 | 94-15/16 | 94-1/16 |
| 1340 | 24 | 40 | 102-15/16 | 102-1/16 |

The above dimensions are subject to slight variations in assembling.

*Pit dimensions for these boilers are given on page 15.*

## ASSEMBLY

740—F.A.M.C.W.Y.B.

840—F.A.M.M.C.W.Y.B.

940—F.A.N.M.C.W.Y.V.B.

1040—F.A.N.T.C.M.W.Y.V.B.

1140—F.A.N.M.T.C.M.W.Y.V.B.

1240—F.A.N.N.C.T.M.W.Y.V.V.B.

1340—F.A.N.N.M.C.T.M.W.Y.V.V.B.

## KEY TO SECTIONS

F—Front.

A—Tapped Front Flue with flow, water column and water heater tappings.

N—Plain Front Flue.

M—Plain Middle.

T—Tapped Middle with flow tapping only.

W—Bridge wall.

C—Curtain.

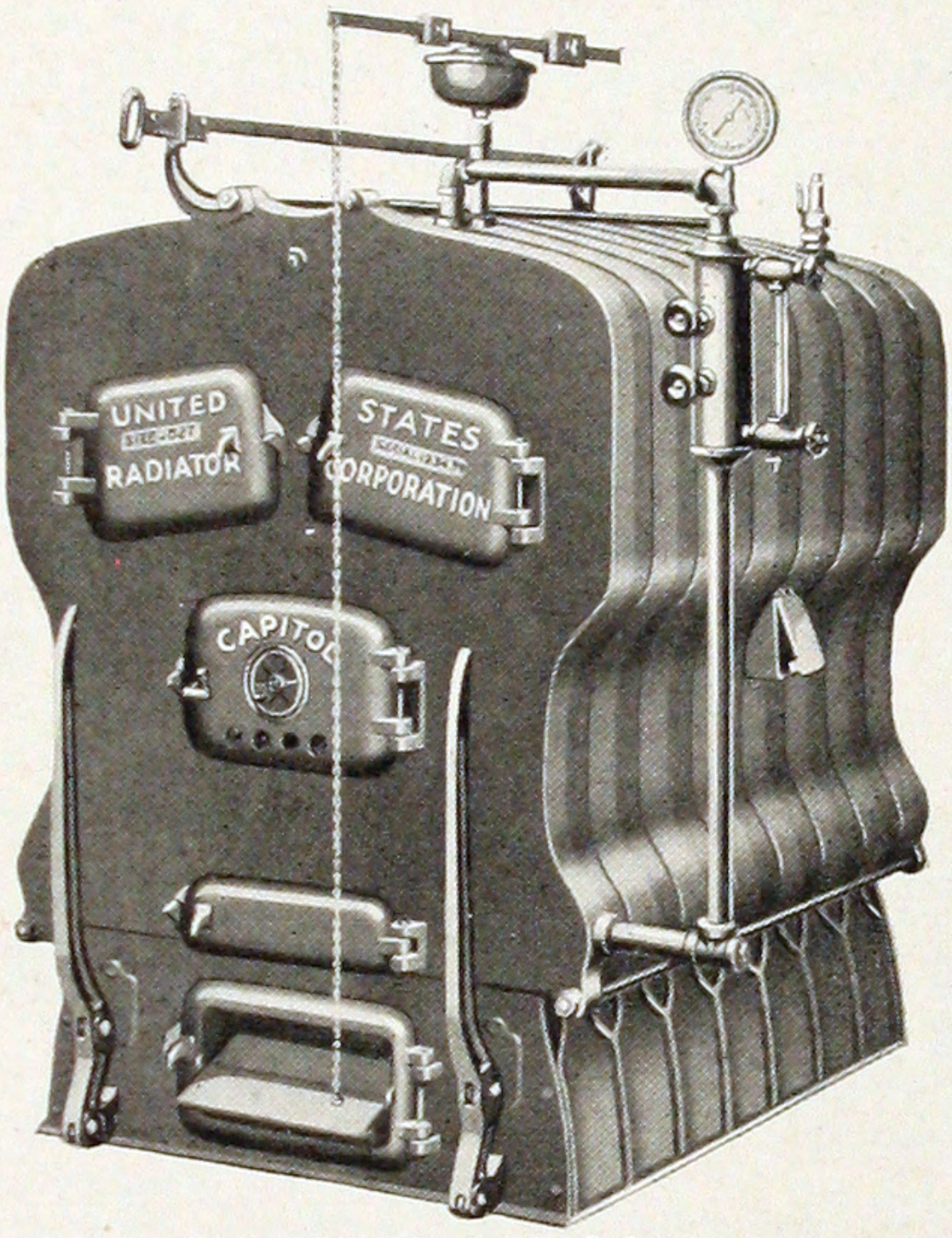
Y—Tapped Safety Valve with flow and safety valve tappings.

V—Plain Rear Flue.

B—Back.

## TAPPINGS

Flow tappings on 40-inch Series are located in A, T, and Y sections. Two 6″ return tappings are located in the rear of the back section. A 3″ flow and return tapping is provided in the "A" section for hot water supply heater.




No. 827
*Capitol*
*Smokeless*
*Boiler*

# Now, smokeless boiler economy for smaller buildings

Smokeless boilers are as desirable for large residences and small apartments as they are for larger commercial buildings, since smoke is a particular nuisance around homes. In addition, smokeless operation means greatest fuel economy in small installations as well as large.

To meet this large and growing demand, the Capitol 27-inch series Smokeless Boiler has been designed.

Capitol ease of operation and mechanical certainty of proper auxiliary air supply, important in the larger sizes, become a necessity in a small installation which has not an attendant who devotes as much time to its care.

Any fireman can shovel soft

coal into a 27-inch series Boiler and operate it smokelessly. No special skill or attention is required.

Auxiliary air is admitted through fixed openings in the fire door which never need adjusting. Together with the volatile gases it sweeps toward the back. They meet an inverted bridgewall or curtain. Are deflected downward. As they pass under, they receive an additional supply of oxygen from a slot in the curtain. Then, hitting the rear wall, the oxygen mixes thoroughly with the gases and combustion is completed in the back of the fire box.

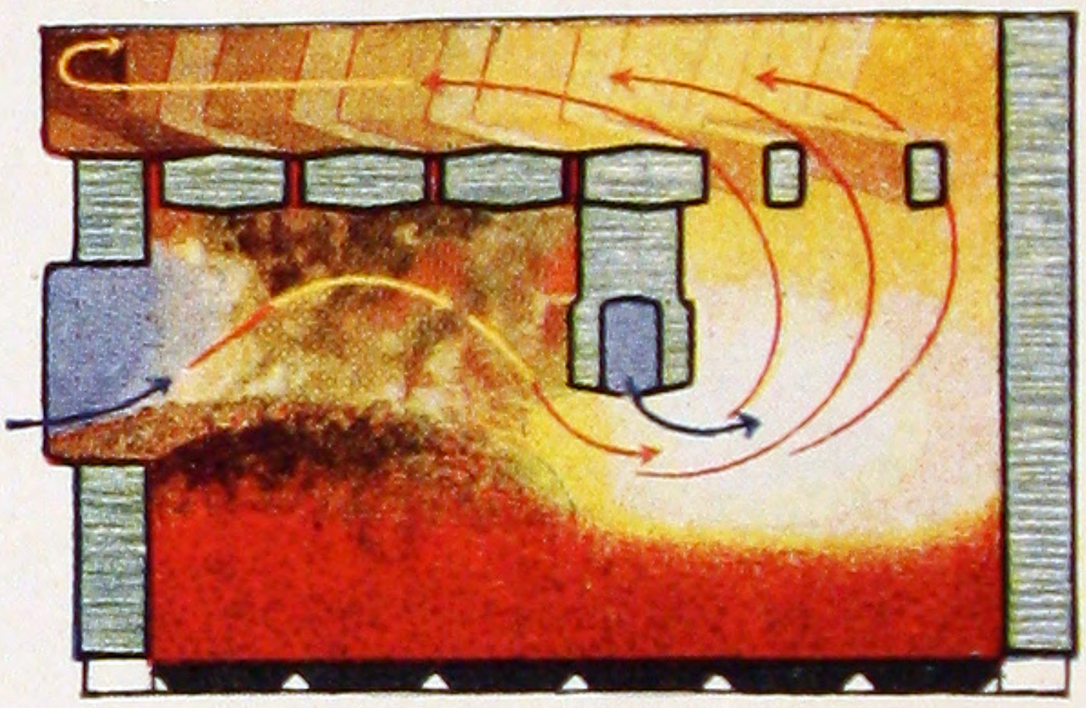


*Diagram of air travel*

All the smoke is burned before the gases enter the flues. Twice more they travel the full length of the boiler, getting the utmost heating value out of every pound of coal.


*Sectional view showing efficient combustion in 27-inch series*

## RADIATOR LOADS and DIMENSIONS

| Boiler No. | *Direct Cast Iron Radiator Loads Sq. Ft. | | Height of Water Line Inches | Grate Area Sq. Ft. | Coal Capacity Cu. Ft. | Outlets | Min. Chimney Sizes | |
|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | Height Ft. | Dimensions Inches |
| 627 | 1000 | 1650 | 45½ | 5.32 | 7.93 | 2—4″ | .40 | 12 x 12 |
| 727 | 1225 | 2020 | 45½ | 6.55 | 9.75 | 2—4″ | 40 | 12 x 12 |
| 827 | 1450 | 2390 | 45½ | 7.78 | 11.37 | 3—4″ | 45 | 12 x 12 |
| 927 | 1675 | 2760 | 45½ | 9.01 | 13.09 | 3—4″ | 45 | 12 x 16 |
| 1027 | 1900 | 3135 | 45½ | 10.24 | 14.81 | 3—4″ | 45 | 12 x 16 |
| 1127 | 2125 | 3505 | 45½ | 11.47 | 16.53 | 3—4″ | 50 | 12 x 16 |
| 1227 | 2350 | 3875 | 45½ | 12.70 | 18.25 | 4—4″ | 50 | 12 x 16 |

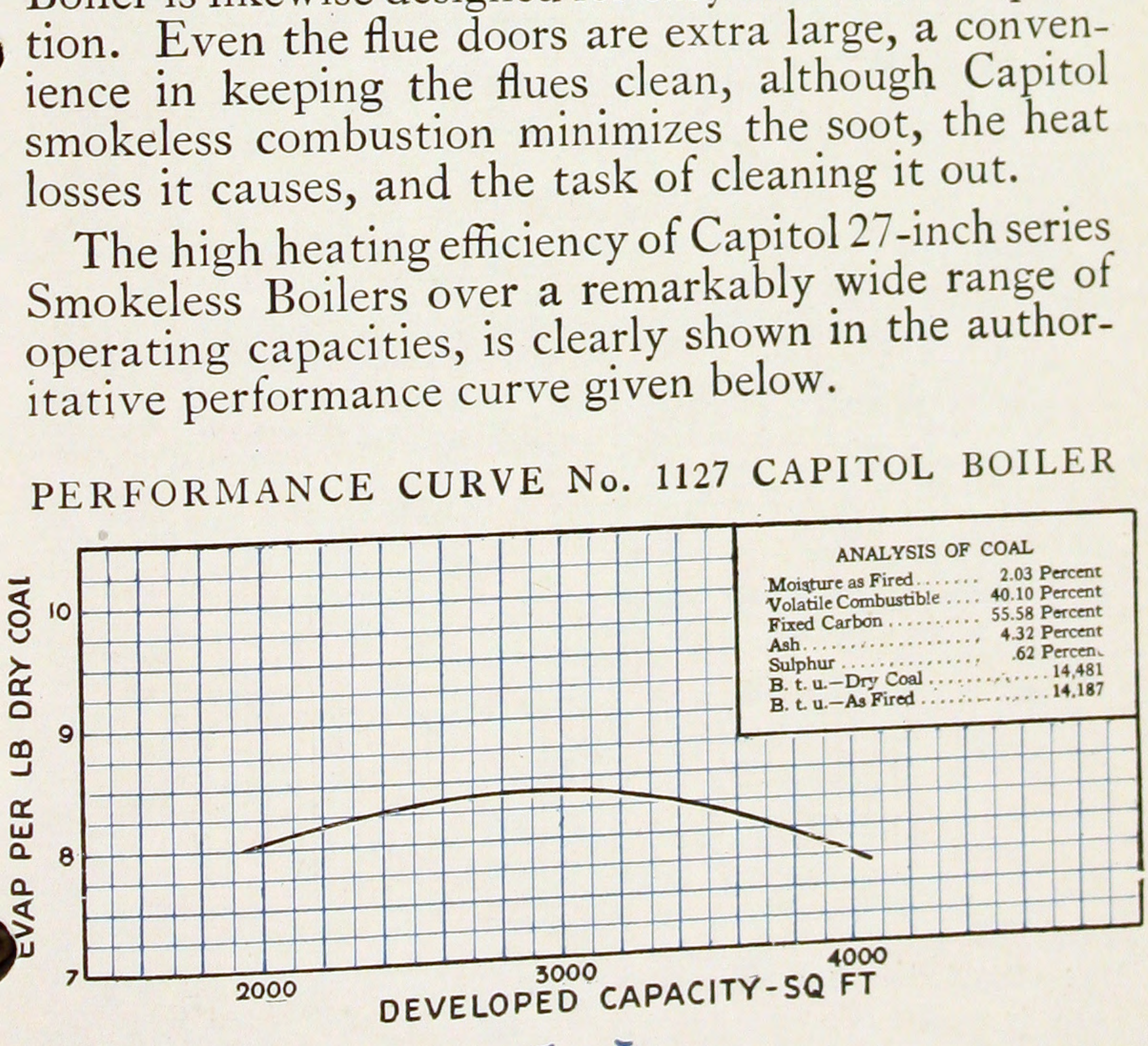
*See Guaranteed Heating.
Height including trimmings 68½ inches; width 50¾ inches.
Specify if back or top outlet smoke hood is required.
See Engineering Data Book for chimneys, for batteries of boilers, and amount of asbestos cement required to cover each size of boiler.

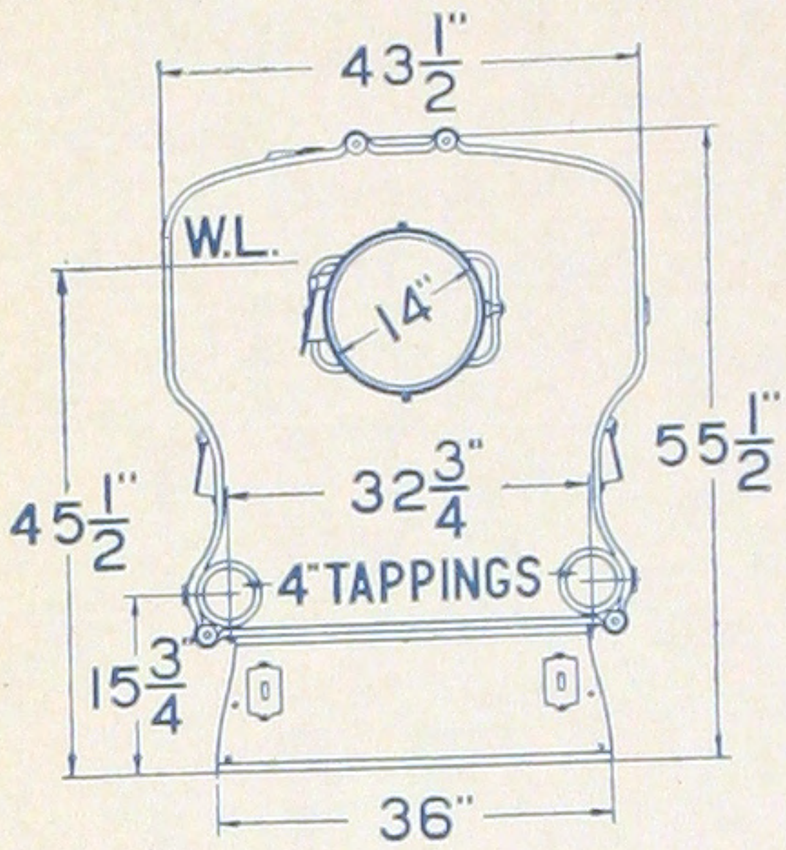
Banking the fire is as simple as stoking it. When the main drafts are closed, the green coal cokes slowly in the deep fire box. An incandescent bed is formed that quickly ignites the fresh fuel shoveled in the next morning and swiftly floods the house or apartment with grateful warmth.

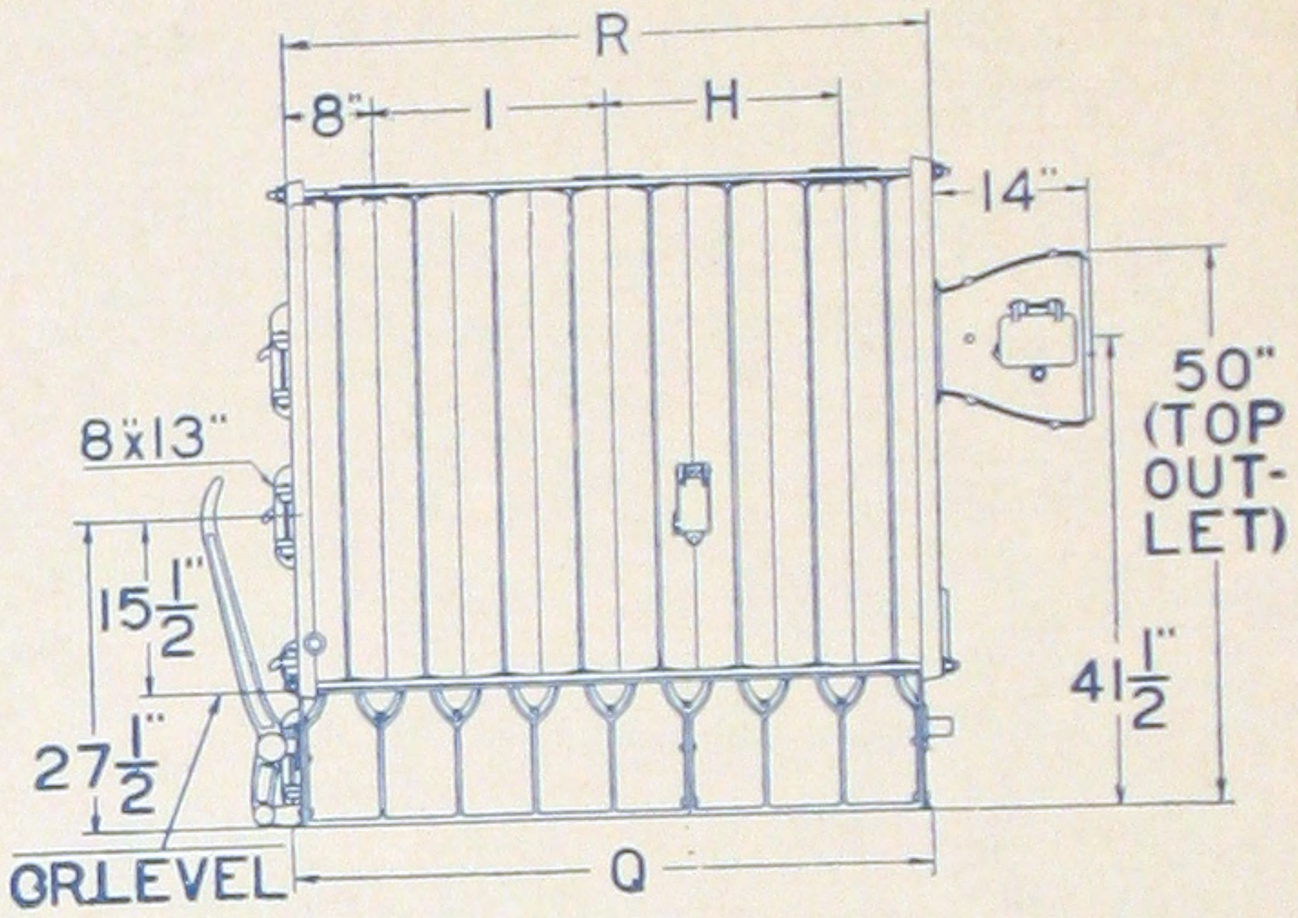
Every detail in the Capitol 27-inch series Smokeless Boiler is likewise designed for easy and reliable operation. Even the flue doors are extra large, a convenience in keeping the flues clean, although Capitol smokeless combustion minimizes the soot, the heat losses it causes, and the task of cleaning it out.

The high heating efficiency of Capitol 27-inch series Smokeless Boilers over a remarkably wide range of operating capacities, is clearly shown in the authoritative performance curve given below.

## PERFORMANCE CURVE No. 1127 CAPITOL BOILER






## DIMENSIONS

| Boiler No. | H Inches | *H1 Inches | I Inches | Q Inches | R Inches |
|---|---|---|---|---|---|
| 627 | .... | .... | 20 1/4 | 35-15/16 | 35 7/8 |
| 727 | .... | .... | 27 | 42 5/8 | 42 5/8 |
| 827 | 20 1/4 | .... | 13 1/2 | 49-5/16 | 49 3/8 |
| 927 | 20 1/4 | .... | 20 1/4 | 56 | 56 1/8 |
| 1027 | 20 1/4 | .... | 20 1/4 | 62-11/16 | 62 7/8 |
| 1127 | 27 | .... | 20 1/4 | 69 3/8 | 69 5/8 |
| 1227 | 20 1/4 | 20 1/4 | 20 1/4 | 76-1/16 | 76 3/8 |

*H1—Distance between third and fourth tappings.
The above dimensions are subject to slight variations in assembling.

## ASSEMBLY

627—F.S.M.C.X.B.

727—F.S.M.M.C.X.B.

827—F.S.M.T.C.V.X.B.

927—F.S.M.M.T.C.V.X.B.

1027—F.S.N.M.T.C.V.X.V.B.

1127—F.S.N.M.T.M.C.V.X.V.B.

1227—F.S.N.M.T.M.C.X.V.V.X.B.

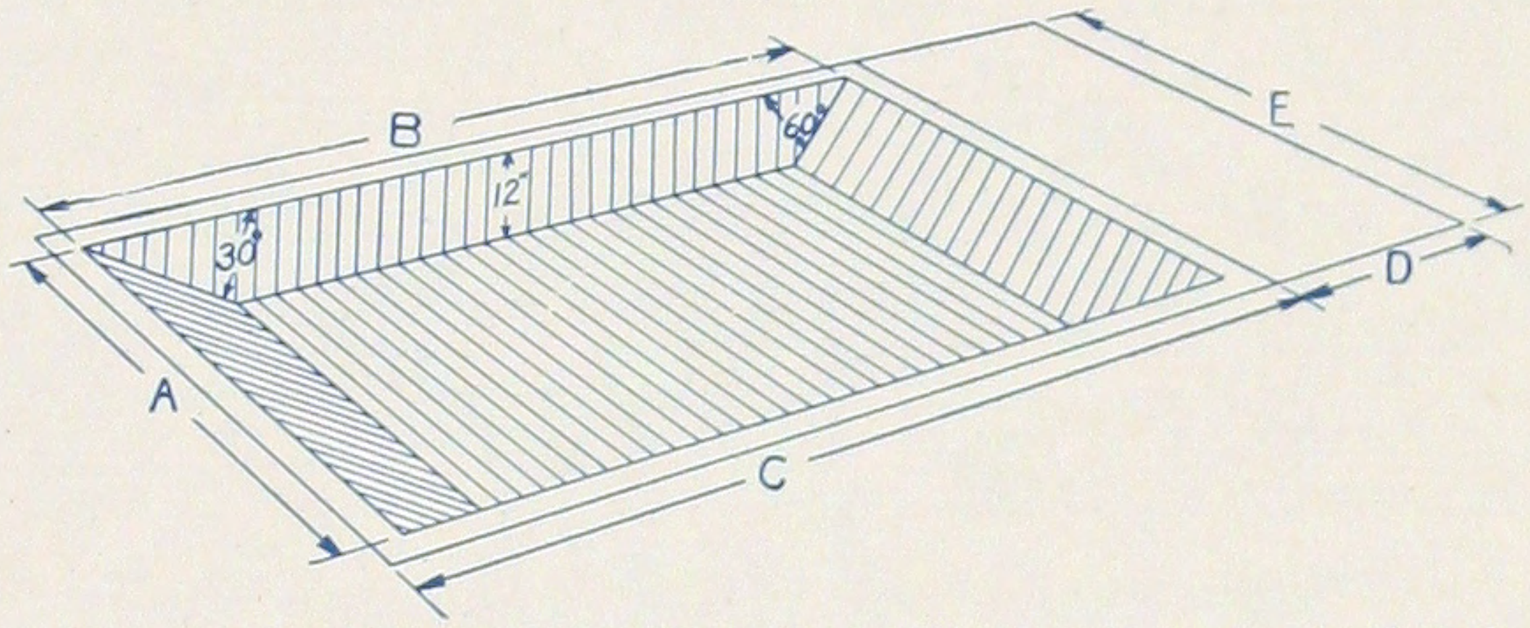
## KEY TO SECTIONS

F—Front.
S—Tapped Front Flue with flow and water heater tappings.
M—Plain Middle.
N—Plain Front Flue.
T—Tapped Middle with flow tapping only.
C—Curtain.
V—Plain Rear Flue.
X—Tapped rear flue with flow and safety valve tappings.
B—Back.

## TAPPINGS

Flow tappings on 27-inch Series are located in S, T, and X sections. Two 4" return tappings are located in the rear of the back section. Two 1-¼" tappings are provided in the "S" section for hot water supply heater.

# PIT DIMENSIONS




We recommend the construction of a pit similar to the above sketch with all Capitol smokeless boilers, as 95% of burned grates are directly traceable to the accumulation of ashes under grates.

Complete dimensions are given below. Measurement "D" pertains to 40-inch and 50-inch boilers that employ a bridgewall which shortens pit dimensions.

A—Width of pit.

B—Length of pit.

C—Length of base of boilers not employing bridgewall, also distance from outside of front base plate to front side of bridgewall on boilers employing bridgewall.

D—Distance from front side of bridgewall to outside of rear base plate.

E—Width of boiler base.

To provide proper foundation for boiler when basement floor is not laid, add 6 to 8 inches to dimensions C, D and E.

## 50-INCH SERIES

| Boiler No. | A Inches | B Inches | C Inches | D Inches | E Inches |
|---|---|---|---|---|---|
| 750 | 51 | 53 | 59 | .... | 57 ¾ |
| 850 | 51 | 62 | 68 | .... | 57 ¾ |
| 950 | 51 | 71 | 77 | .... | 57 ¾ |
| 1050 | 51 | 80 | 86 | .... | 57 ¾ |
| 1150 | 51 | 70 | 76 ½ | 18 ½ | 57 ¾ |
| 1250 | 51 | 79 | 85 ½ | 18 ½ | 57 ¾ |
| 1350 | 51 | 79 | 85 ½ | 27 ½ | 57 ¾ |

## 40-INCH SERIES

| Boiler No. | A Inches | B Inches | C Inches | D Inches | E Inches |
|---|---|---|---|---|---|
| 740 | 41 | 30 | 36 ¼ | 19 | 47 |
| 840 | 41 | 38 | 44 ¼ | 19 | 47 |
| 940 | 41 | 38 | 44 ¼ | 27 | 47 |
| 1040 | 41 | 46 | 52 ¼ | 27 | 47 |
| 1140 | 41 | 54 | 60 ¼ | 27 | 47 |
| 1240 | 41 | 54 | 60 ¼ | 35 | 47 |
| 1340 | 41 | 62 | 68 ¼ | 35 | 47 |

## 27-INCH SERIES

| Boiler No. | A Inches | B Inches | C Inches | E Inches |
|---|---|---|---|---|
| 627 | 30 | 30 | 36 ¼ | 36 |
| 727 | 30 | 37 | 43 | 36 |
| 827 | 30 | 43 ½ | 49 ½ | 36 |
| 927 | 30 | 50 | 56 ¼ | 36 |
| 1027 | 30 | 57 | 63 | 36 |
| 1127 | 30 | 63 ½ | 69 ¾ | 36 |
| 1227 | 30 | 70 | 76 ¼ | 36 |

# *United States Radiator Corporation*

General Offices, Detroit, Michigan

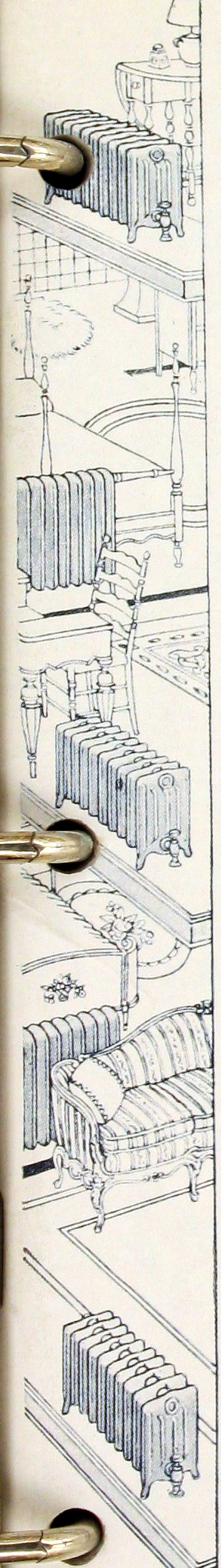
## BRANCH AND SALES OFFICES

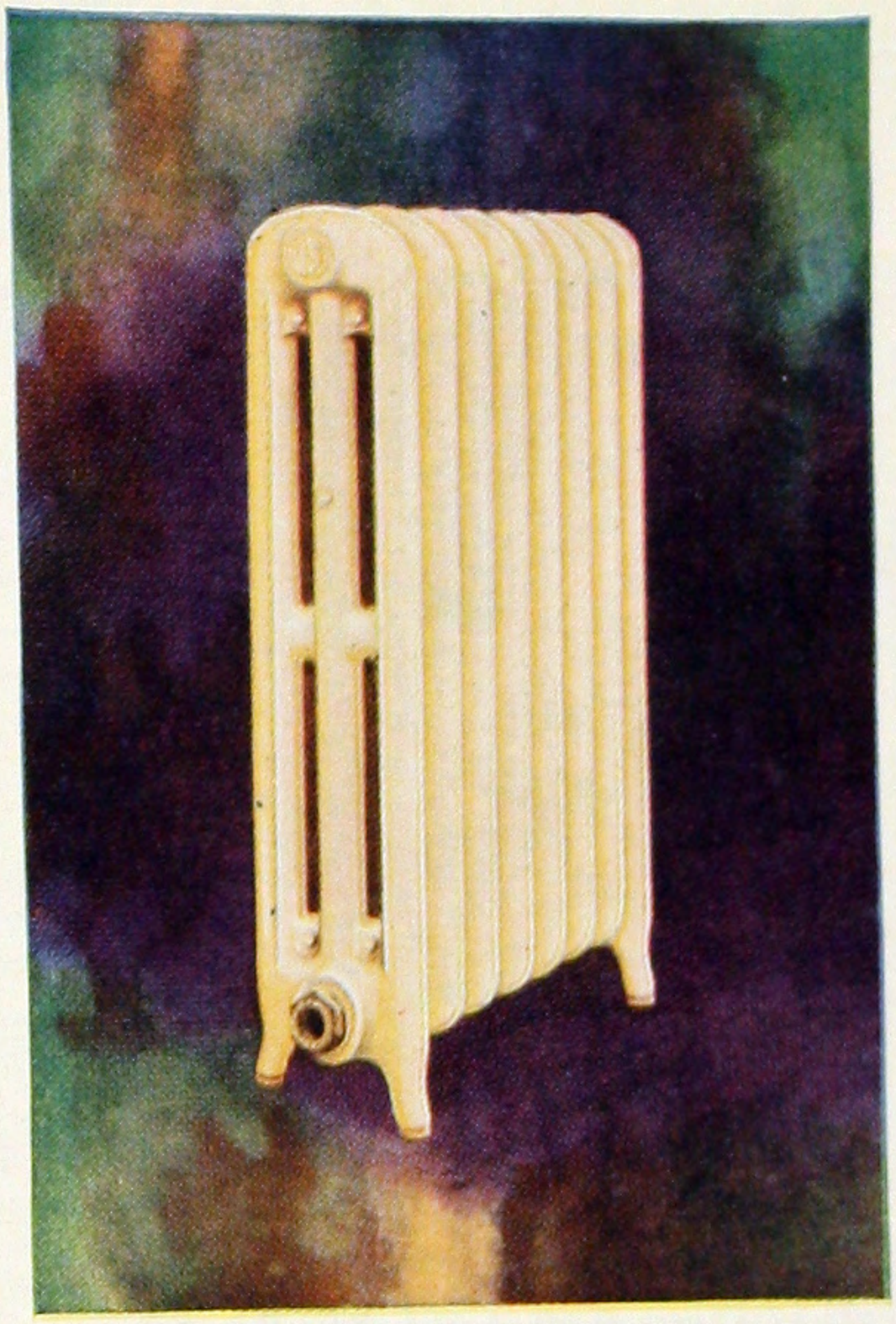
| | |
|---|---|
| *Boston | 136 Federal St. |
| *Portland, Me. | 2 Martyr St. |
| *Springfield, Mass. | North Main St. |
| *Providence | Allen's Ave., Foot of Oxford St. |
| *Troy | Center St., Green Island, N. Y. |
| *New Haven | New St. and Railroad Ave. |
| New York | 301 Architects Bldg. |
| *Brooklyn | 65 Forty-fifth St. |
| *Harrison, N. J. | Davis and Central Aves. |
| *Philadelphia | 220 South 16th St. |
| *Baltimore | 1147 Wicomico St. |
| Buffalo | 303 Crosby Bldg. |
| *Rochester, N. Y. | 64 Chester St. |
| Pittsburgh | 1008 Union Bank Bldg. |
| *Cleveland | 523 Guarantee Title Bldg. |
| *Columbus | 174 West Naghten St. |
| *Cincinnati | 1212 Exeter St. |
| Detroit | 517 Dime Savings Bank Bldg. |
| *Chicago | 500 North Dearborn St. |
| *Milwaukee | 168 Corcoran Ave. |
| *Indianapolis | 908 North Senate Ave. |
| *Louisville | 1631 West High St. |
| *Minnesota | 688 Hampden Ave., St. Paul |
| *St. Louis | 4004 Duncan Ave. |
| *Kansas City | 1405 West Eleventh St. |
| *Des Moines | 400 Southwest Ninth St. |
| *Omaha | 1017 North 21st St. |
| *Denver | 2439 Blake St. |
| *Seattle | 1248 First Ave., South |
| *Portland, Ore. | 16th, North and Thurman Sts. |
| *San Francisco | 640 Second St. |

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.—Detroit, Mich.—Dunkirk, N. Y.—Edwardsville, Ill.—Geneva, N. Y.—West Newton, Pa.

CHARLES DANIEL FREY, ADVERTISING, INC., CHICAGO







# United States *Radiators*

UNITED STATES
RADIATOR CORPORATION
*Detroit, Michigan*

# GUARANTEED

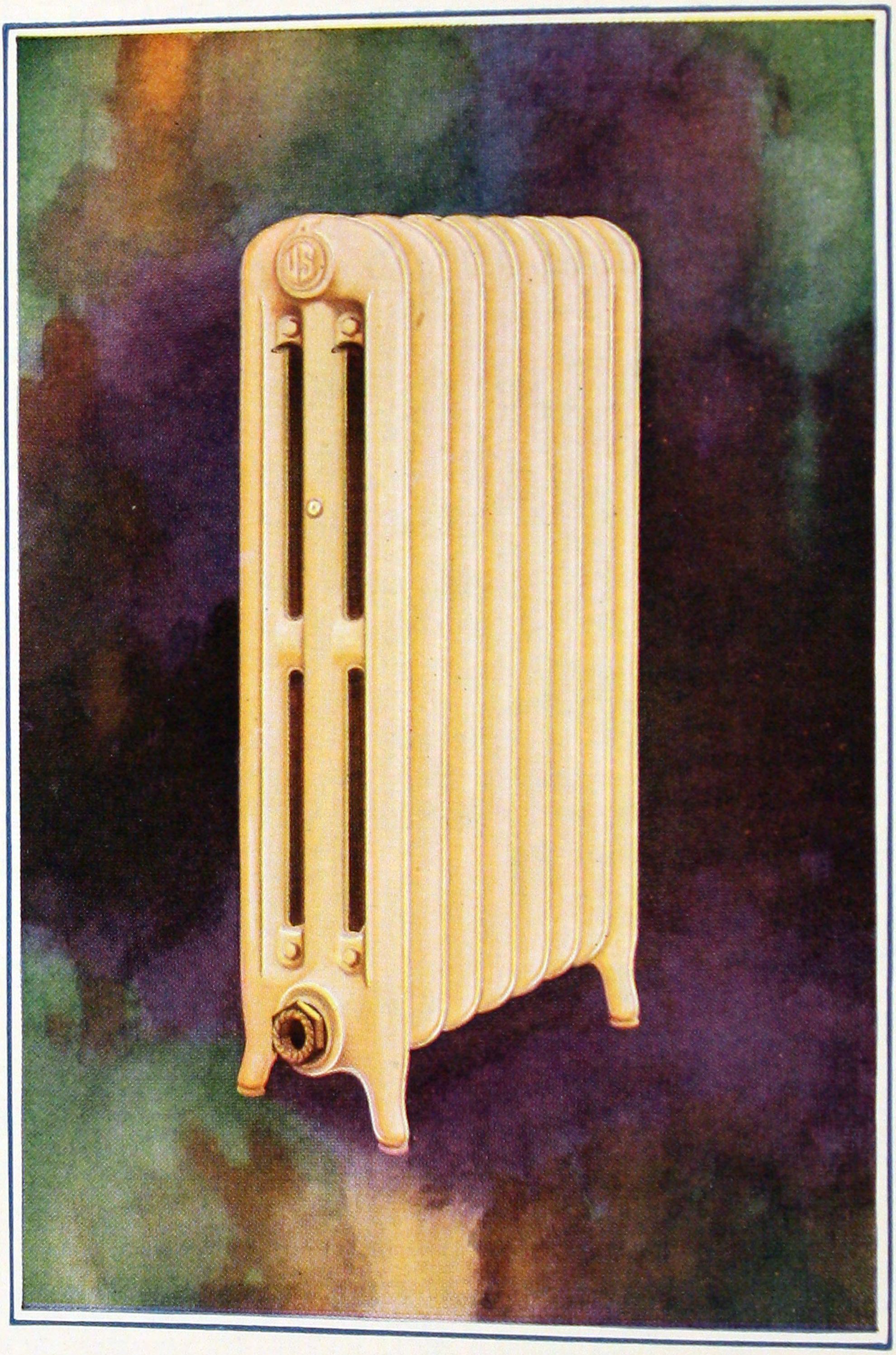
*Every radiator made by the United States Radiator Corporation is positively guaranteed to be free from any imperfections in materials or workmanship, and to give entire satisfaction in the work for which it is intended.*

# UNITED STATES
# RADIATORS

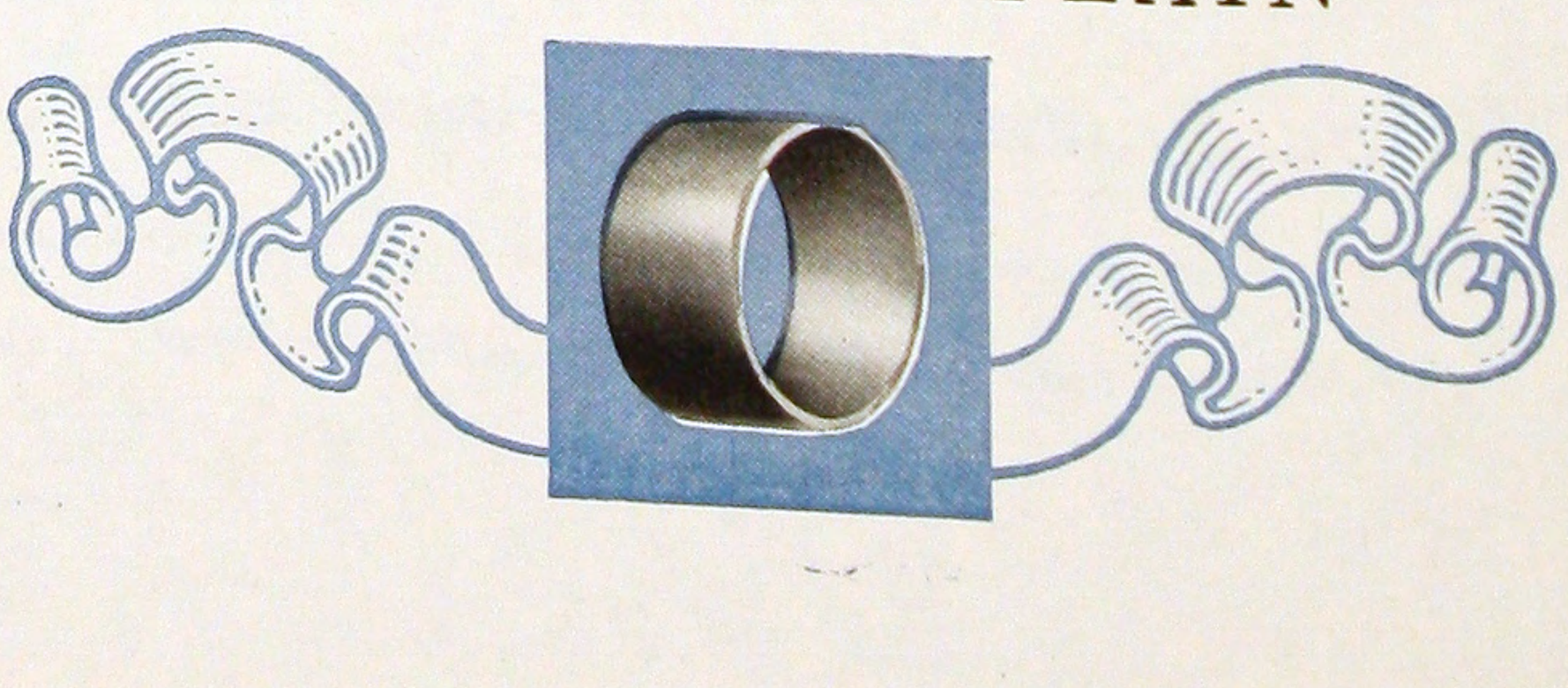
*UNITED STATES RADIATOR CORPORATION*

SIX MANUFACTURING PLANTS AND TWENTY-EIGHT ASSEMBLING PLANTS SERVE THE COUNTRY

*For 36 years, builders of dependable heating equipment*



# THE TRITON PLAIN



# Helping you decide which Radiators to choose

THE many conflicting claims for different types of radiator construction cannot all be sound. How can you judge which of them is right? Put the question before your own good judgment.

It is logical, you will agree, that no maker would use gaskets between section joints if there was no danger of leakage without them. And any gasket, rubber, asbestos, paper, or composition is bound to disintegrate sooner or later.

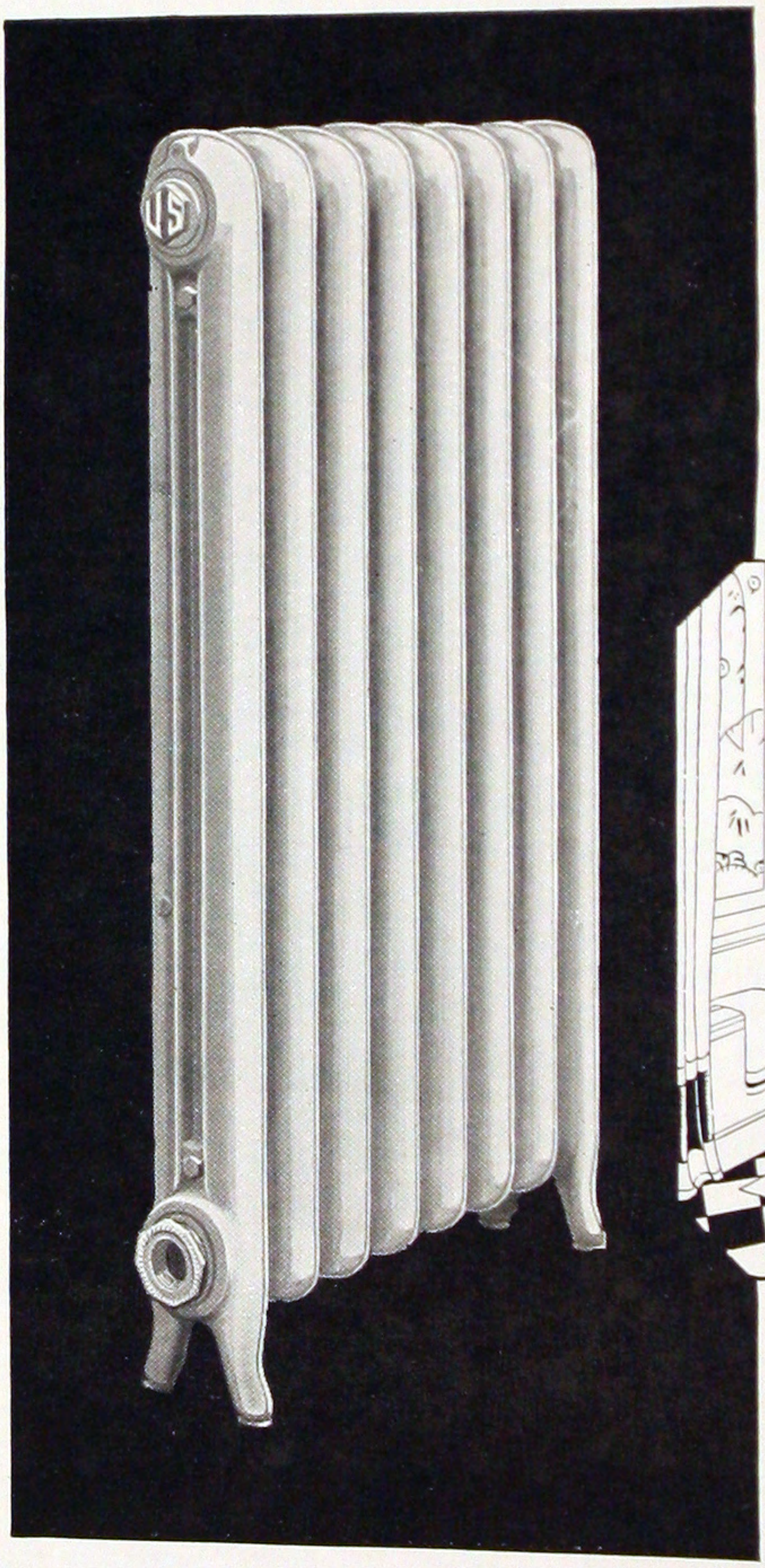
One experience is enough to convince anyone how difficult it is to handle heavy assembled radiators under many conditions. Yet how much more difficult it is to disassemble radiators with screwed joints.

Why put up with these disadvantages, your judgment counsels, when the push nipple joint will stand every test for tightness and strength that any other joint will stand?

Of course, accuracy is a prime essential. The extra heavy malleable cast iron push nipples in United States Radiators are machined with hair-breadth precision. They form a perfect, tight iron to iron joint. They need no gaskets, have no threads to rust, are taken apart and assembled with the greatest ease. Unobtrusive connecting rods truss them like a steel bridge into a sturdy unit that cannot be wrenched loose by rack or strain.

With these facts before you, you come to the decision as have the majority of thinking heating engineers and contractors: the push nipple type joint as United States Radiator Corporation builds it is the most practical.

But the joint is only one feature that merits your preference. From the drafting table and testing of the moulding sand and molten iron to the final 100 pound hydrostatic test, the complete satisfaction of you and your clients in each and every United States Radiator is assured before it leaves the factory.



ONE COLUMN TRITON

*Only four and one-half inches wide, the one column Triton is particularly desirable for small rooms where floor space is limited.*

THE Triton design has made radiators a comely part of room decoration instead of an ugly though necessary protrusion. With simple flowing lines it graces any surroundings in which it may be placed.

## FOR STEAM OR WATER

### List of Sizes

| Number of Sections | *Length Inches | Nominal Surface | | | | |
|---|---|---|---|---|---|---|
| | | 38-Inch Height 3 Square Feet per Section | 32-Inch Height 2 ½ Sq. Feet per Section | 26-Inch Height 2 Square Feet per Section | 22-Inch Height 1⅔ Sq. Feet per Section | 20-Inch Height 1 ½ Sq. Feet per Section |
| 2 | 5 | 6 | 5 | 4 | 3 ⅓ | 3 |
| 3 | 7 ½ | 9 | 7 ½ | 6 | 5 | 4 ½ |
| 4 | 10 | 12 | 10 | 8 | 6 ⅔ | 6 |
| 5 | 12 ½ | 15 | 12 ½ | 10 | 8 ⅓ | 7 ½ |
| 6 | 15 | 18 | 15 | 12 | 10 | 9 |
| 7 | 17 ½ | 21 | 17 ½ | 14 | 11 ⅔ | 10 ½ |
| 8 | 20 | 24 | 20 | 16 | 13 ⅓ | 12 |
| 9 | 22 ½ | 27 | 22 ½ | 18 | 15 | 13 ½ |
| 10 | 25 | 30 | 25 | 20 | 16 ⅔ | 15 |
| 11 | 27 ½ | 33 | 27 ½ | 22 | 18 ⅓ | 16 ½ |
| 12 | 30 | 36 | 30 | 24 | 20 | 18 |
| 13 | 32 ½ | 39 | 32 ½ | 26 | 21 ⅔ | 19 ½ |
| 14 | 35 | 42 | 35 | 28 | 23 ⅓ | 21 |
| 15 | 37 ½ | 45 | 37 ½ | 30 | 25 | 22 ½ |
| 16 | 40 | 48 | 40 | 32 | 26 ⅔ | 24 |
| 17 | 42 ½ | 51 | 42 ½ | 34 | 28 ⅓ | 25 ½ |
| 18 | 45 | 54 | 45 | 36 | 30 | 27 |
| 19 | 47 ½ | 57 | 47 ½ | 38 | 31 ⅔ | 28 ½ |
| 20 | 50 | 60 | 50 | 40 | 33 ⅓ | 30 |
| 21 | 52 ½ | 63 | 52 ½ | 42 | 35 | 31 ½ |
| 22 | 55 | 66 | 55 | 44 | 36 ⅔ | 33 |
| 23 | 57 ½ | 69 | 57 ½ | 46 | 38 ⅓ | 34 ½ |
| 24 | 60 | 72 | 60 | 48 | 40 | 36 |
| 25 | 62 ½ | 75 | 62 ½ | 50 | 41 ⅔ | 37 ½ |

Each section is 4 ½ inches wide. Width of legs 5 $\frac{1}{32}$ inches.

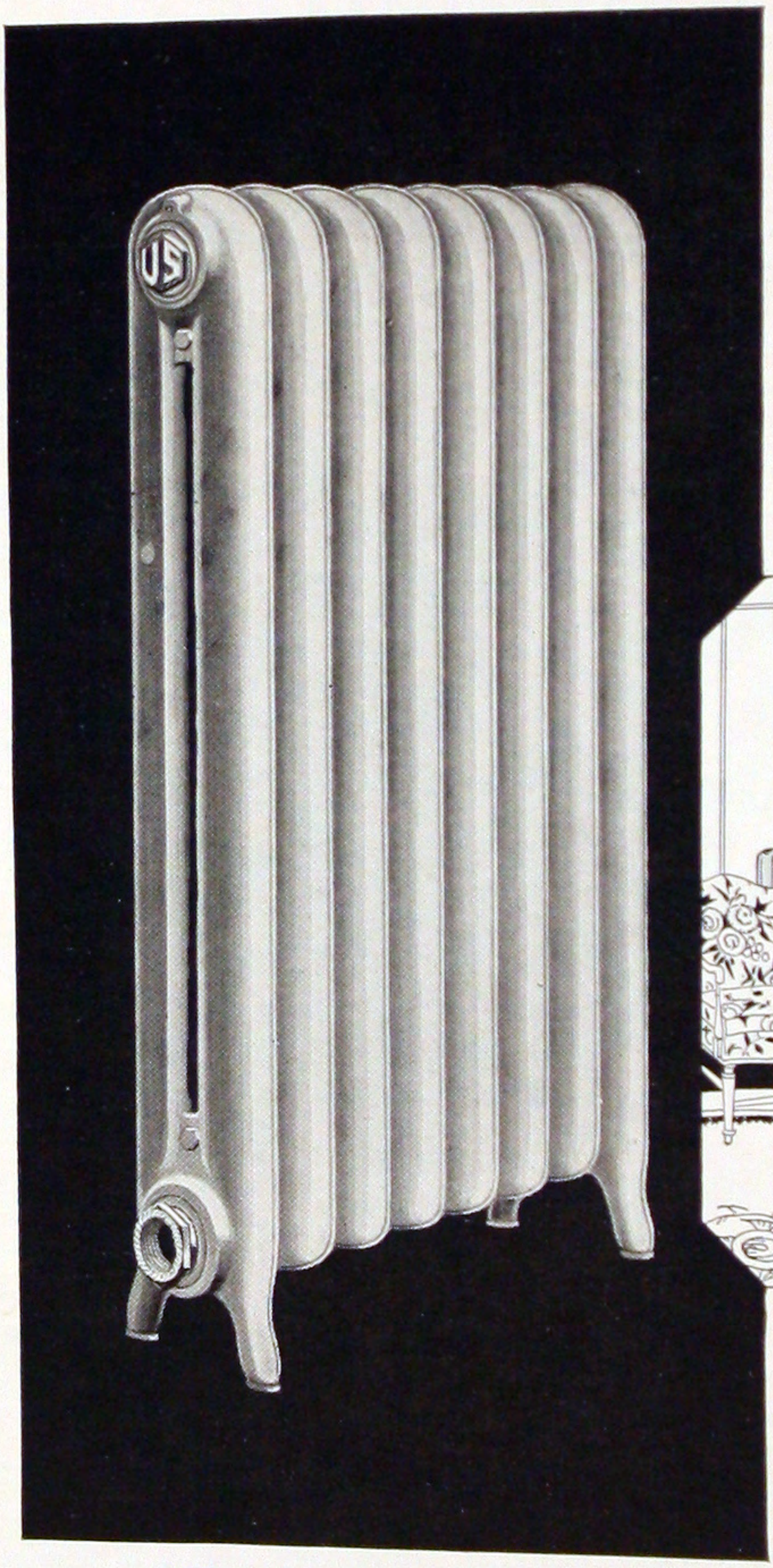
Above radiators are tapped 2 inches at bottom and 1 ½ inches at top. Tappings are bushed as per list on page 18, unless otherwise ordered.

Distance from floor to center of lower tapping: 4 ½ inches.

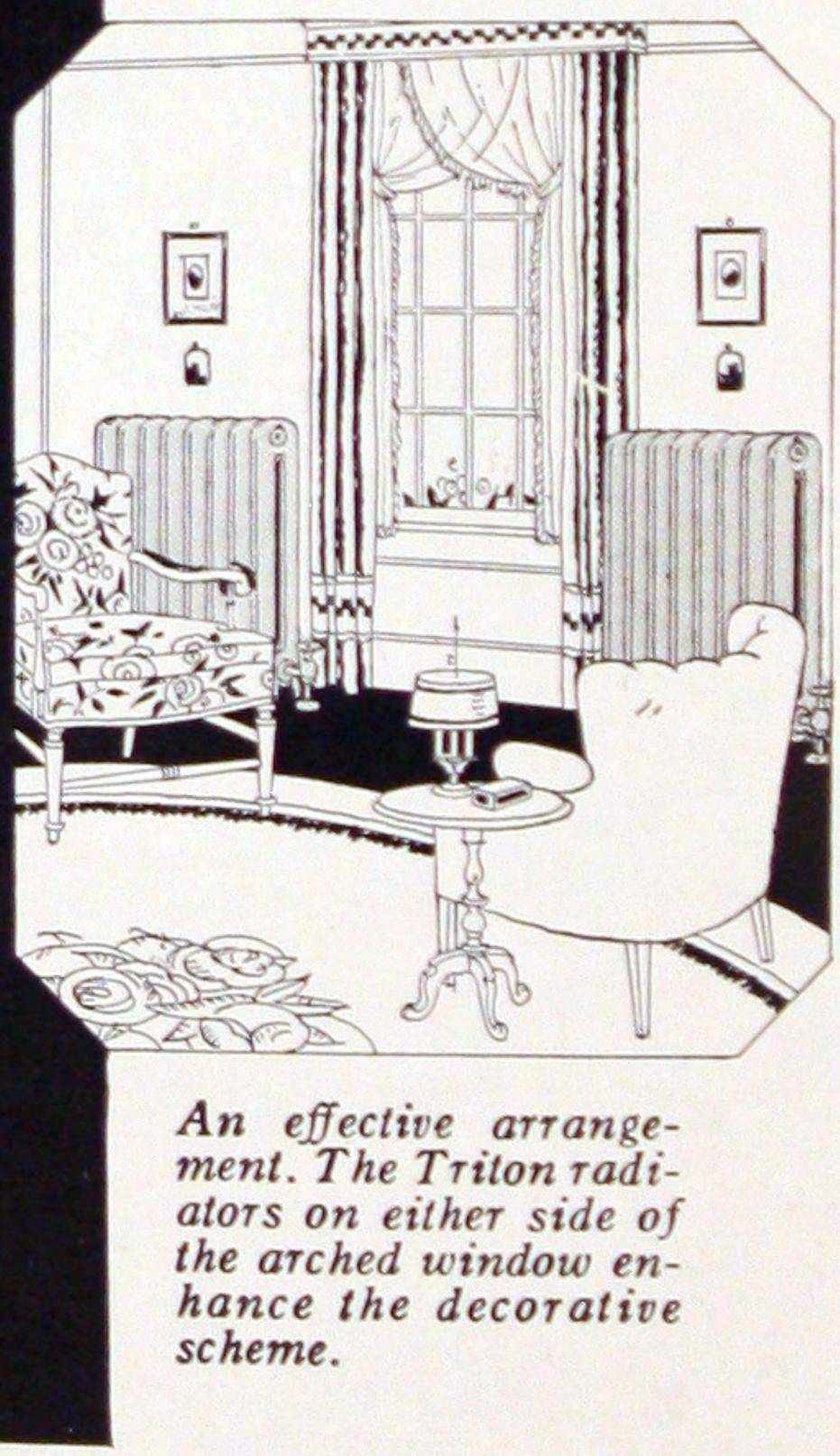
| | 38 | 32 | 26 | 22 | 20 |
|---|---|---|---|---|---|
| Distance from floor to center of upper tapping. . . . | 35 $\frac{9}{16}$ | 29 $\frac{9}{16}$ | 23 $\frac{5}{8}$ | 19 $\frac{5}{8}$ | 17 $\frac{47}{64}$ |

*Allow ½-inch for each bushing in estimating length of radiators.

Made in the following special forms only: Side Wall for Concealed Brackets, steam or water. Legs extra high, solid, for steam or water. Direct-Indirect for steam or water. Corner, curved and circular for steam or water.



TWO COLUMN TRITON



*An effective arrangement. The Triton radiators on either side of the arched window enhance the decorative scheme.*

MORE than thirty-six years of experience are back of the scientific design of Triton radiators. The effectiveness of their heating surfaces is increased by the unusually wide air spaces between the sections. The heat radiates quickly into the room.

# FOR STEAM OR WATER

## List of Sizes

| No. of Sections | *Lgth. Inches | Nominal Surface | | | | | |
|---|---|---|---|---|---|---|---|
| | | 45-Inch Height 5 Sq. Ft. per Section | 38-Inch Height 4 Sq. Ft. per Section | 32-Inch Height 3 1/3 Sq. Ft. per Section | 26-Inch Height 2 2/3 Sq. Ft. per Section | 22-Inch Height 2 1/4 Sq. Ft. per Section | 20-Inch Height 2 Sq. Ft. per Section |
| 2 | 5 | 10 | 8 | 6 2/3 | 5 1/3 | 4 1/2 | 4 |
| 3 | 7 1/2 | 15 | 12 | 10 | 8 | 6 3/4 | 6 |
| 4 | 10 | 20 | 16 | 13 1/3 | 10 2/3 | 9 | 8 |
| 5 | 12 1/2 | 25 | 20 | 16 2/3 | 13 1/3 | 11 1/4 | 10 |
| 6 | 15 | 30 | 24 | 20 | 16 | 13 1/2 | 12 |
| 7 | 17 1/2 | 35 | 28 | 23 1/3 | 18 2/3 | 15 3/4 | 14 |
| 8 | 20 | 40 | 32 | 26 2/3 | 21 1/3 | 18 | 16 |
| 9 | 22 1/2 | 45 | 36 | 30 | 24 | 20 1/4 | 18 |
| 10 | 25 | 50 | 40 | 33 1/3 | 26 2/3 | 22 1/2 | 20 |
| 11 | 27 1/2 | 55 | 44 | 36 2/3 | 29 1/3 | 24 3/4 | 22 |
| 12 | 30 | 60 | 48 | 40 | 32 | 27 | 24 |
| 13 | 32 1/2 | 65 | 52 | 43 1/3 | 34 2/3 | 29 1/4 | 26 |
| 14 | 35 | 70 | 56 | 46 2/3 | 37 1/3 | 31 1/2 | 28 |
| 15 | 37 1/2 | 75 | 60 | 50 | 40 | 33 3/4 | 30 |
| 16 | 40 | 80 | 64 | 53 1/3 | 42 2/3 | 36 | 32 |
| 17 | 42 1/2 | 85 | 68 | 56 2/3 | 45 1/3 | 38 1/4 | 34 |
| 18 | 45 | 90 | 72 | 60 | 48 | 40 1/2 | 36 |
| 19 | 47 1/2 | 95 | 76 | 63 1/3 | 50 2/3 | 42 3/4 | 38 |
| 20 | 50 | 100 | 80 | 66 2/3 | 53 1/3 | 45 | 40 |
| 21 | 52 1/2 | 105 | 84 | 70 | 56 | 47 1/4 | 42 |
| 22 | 55 | 110 | 88 | 73 1/3 | 58 2/3 | 49 1/2 | 44 |
| 23 | 57 1/2 | 115 | 92 | 76 2/3 | 61 1/3 | 51 3/4 | 46 |
| 24 | 60 | 120 | 96 | 80 | 64 | 54 | 48 |
| 25 | 62 1/2 | 125 | 100 | 83 1/3 | 66 2/3 | 56 1/4 | 50 |

Each section is 7 1/8 inches wide. Width of legs, $7\frac{13}{32}$ inches.

Above radiators tapped 2 inches at bottom and 1 1/2 inches at top. Tappings are bushed as per list on page 18, unless otherwise ordered.

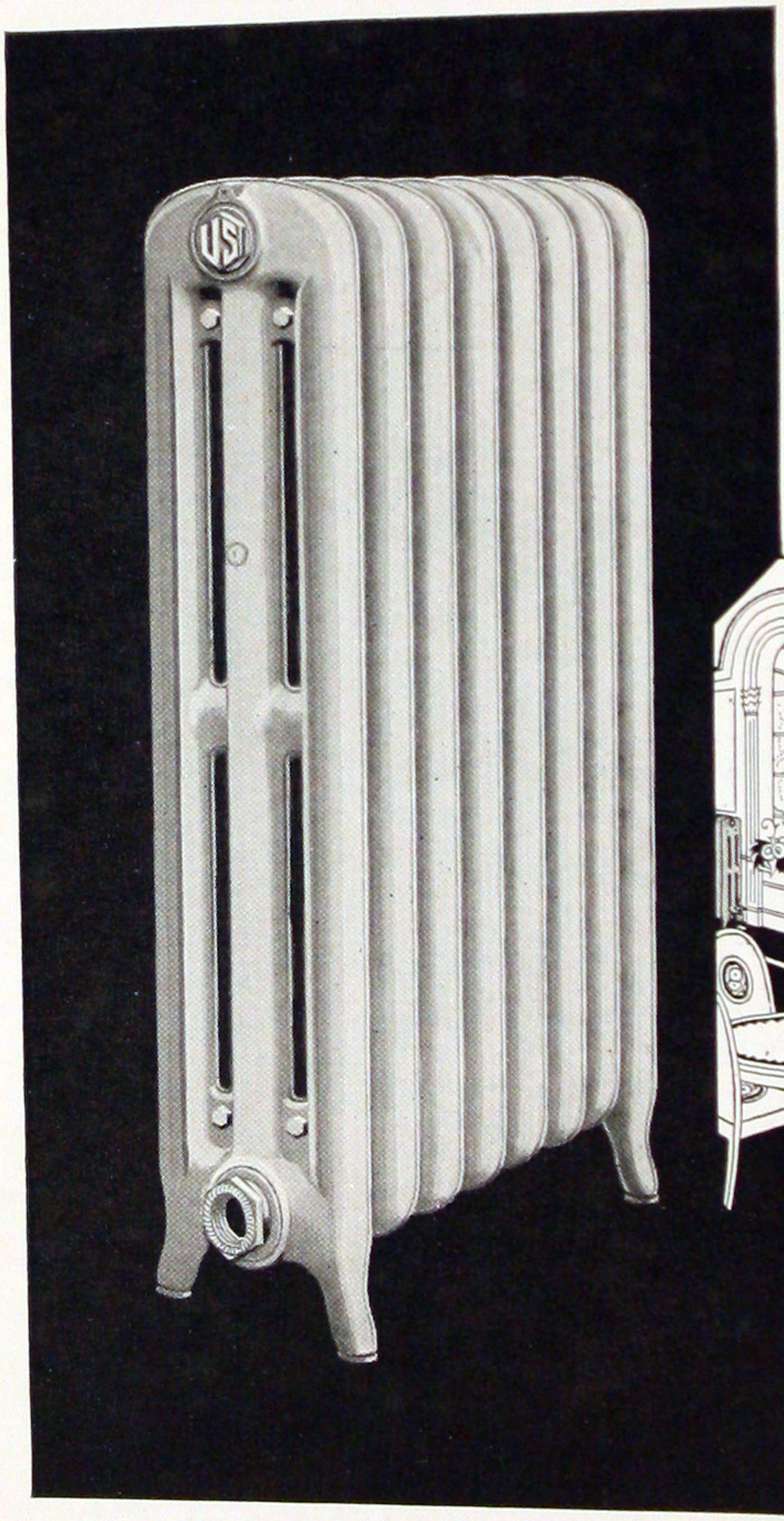
Distance from floor to center of lower tapping, 4 1/2 inches.

| Distance from floor to center of upper tapping..... | 45 | 38 | 32 | 26 | 22 | 20 |
|---|---|---|---|---|---|---|
| | 42 3/8 | 35 9/16 | 29 9/16 | 23 5/8 | 19 5/8 | 17 47/64 |

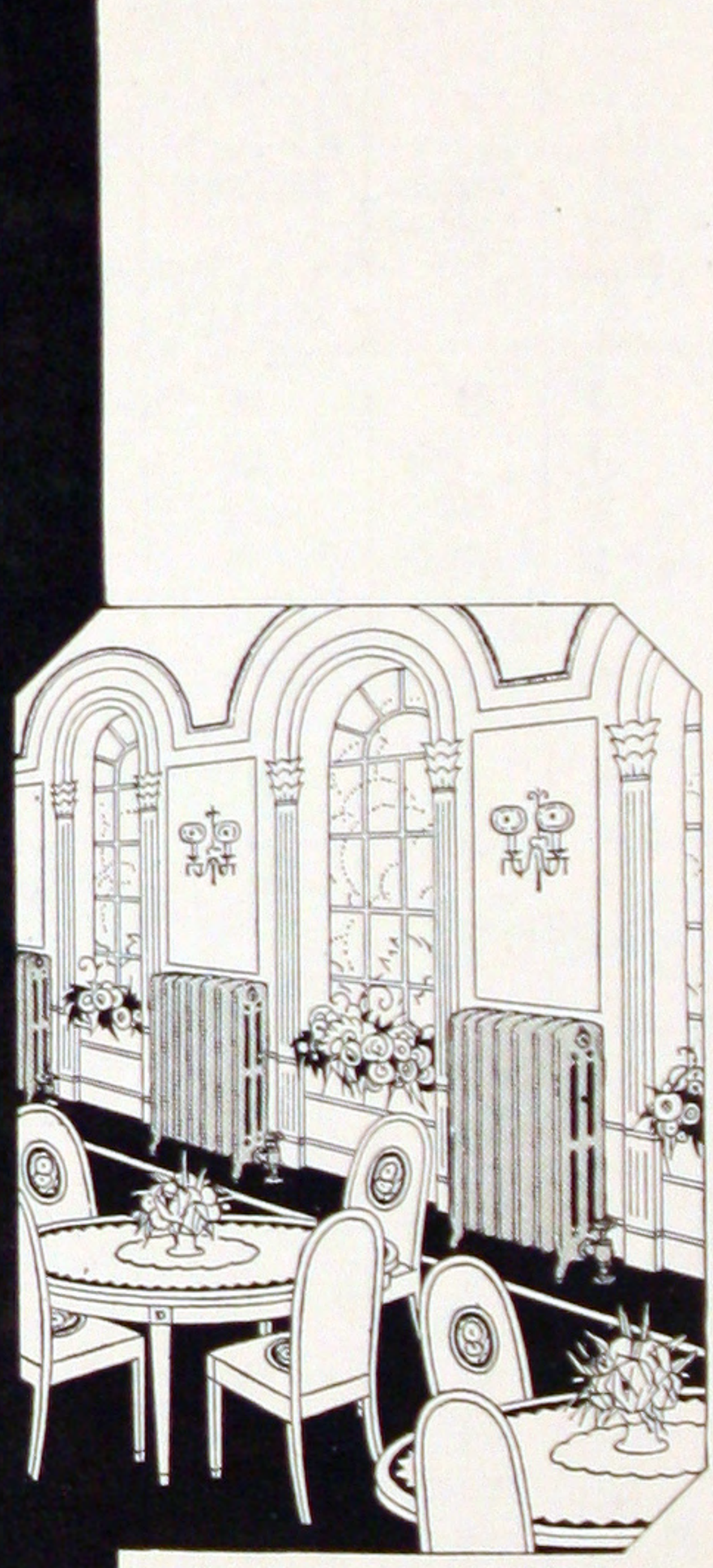
*Allow 1/2-inch for each bushing in estimating length of radiators.

Made in the following special forms only: Side Wall for Concealed Brackets, steam or water. Legs extra high, solid (excepting 45-inch height), for steam or water. Direct-Indirect, for steam or water. Corner, curved and circular, for steam or water.

# THREE COLUMN TRITON PLAIN



THREE COLUMN TRITON



*A popular size that solves the heating problem in large rooms with many windows and high ceilings.*

THE outer cleanness of the castings in the Triton is not mere surface perfection. Their close grained iron has been poured painstakingly. Thin spots, weak points, and pin holes are unknown in United States Radiators.

# FOR STEAM OR WATER

## List of Sizes

| No. of Sections | *Lgth. Inches | Nominal Surface: 45-Inch Height 6 Sq. Ft. per Section | 38-Inch Height 5 Sq. Ft. per Section | 32-Inch Height 4½ Sq. Ft. per Section | 26-Inch Height 3¾ Sq. Ft. per Section | 22-Inch Height 3 Sq. Ft. per Section | 18-Inch Height 2¼ Sq. Ft. per Section |
|---|---|---|---|---|---|---|---|
| 2 | 5 | 12 | 10 | 9 | 7½ | 6 | 4½ |
| 3 | 7½ | 18 | 15 | 13½ | 11¼ | 9 | 6¾ |
| 4 | 10 | 24 | 20 | 18 | 15 | 12 | 9 |
| 5 | 12½ | 30 | 25 | 22½ | 18¾ | 15 | 11¼ |
| 6 | 15 | 36 | 30 | 27 | 22½ | 18 | 13½ |
| 7 | 17½ | 42 | 35 | 31½ | 26¼ | 21 | 15¾ |
| 8 | 20 | 48 | 40 | 36 | 30 | 24 | 18 |
| 9 | 22½ | 54 | 45 | 40½ | 33¾ | 27 | 20¼ |
| 10 | 25 | 60 | 50 | 45 | 37½ | 30 | 22½ |
| 11 | 27½ | 66 | 55 | 49½ | 41¼ | 33 | 24¾ |
| 12 | 30 | 72 | 60 | 54 | 45 | 36 | 27 |
| 13 | 32½ | 78 | 65 | 58½ | 48¾ | 39 | 29¼ |
| 14 | 35 | 84 | 70 | 63 | 52½ | 42 | 31½ |
| 15 | 37½ | 90 | 75 | 67½ | 56¼ | 45 | 33¾ |
| 16 | 40 | 96 | 80 | 72 | 60 | 48 | 36 |
| 17 | 42½ | 102 | 85 | 76½ | 63¾ | 51 | 38¼ |
| 18 | 45 | 108 | 90 | 81 | 67½ | 54 | 40½ |
| 19 | 47½ | 114 | 95 | 85½ | 71¼ | 57 | 42¾ |
| 20 | 50 | 120 | 100 | 90 | 75 | 60 | 45 |
| 21 | 52½ | 126 | 105 | 94½ | 78¾ | 63 | 47¼ |
| 22 | 55 | 132 | 110 | 99 | 82½ | 66 | 49½ |
| 23 | 57½ | 138 | 115 | 103½ | 86¼ | 69 | 51¾ |
| 24 | 60 | 144 | 120 | 108 | 90 | 72 | 54 |
| 25 | 62½ | 150 | 125 | 112½ | 93¾ | 75 | 56¼ |

Each section is 9 inches wide. Width of legs, $9\frac{5}{16}$ inches.

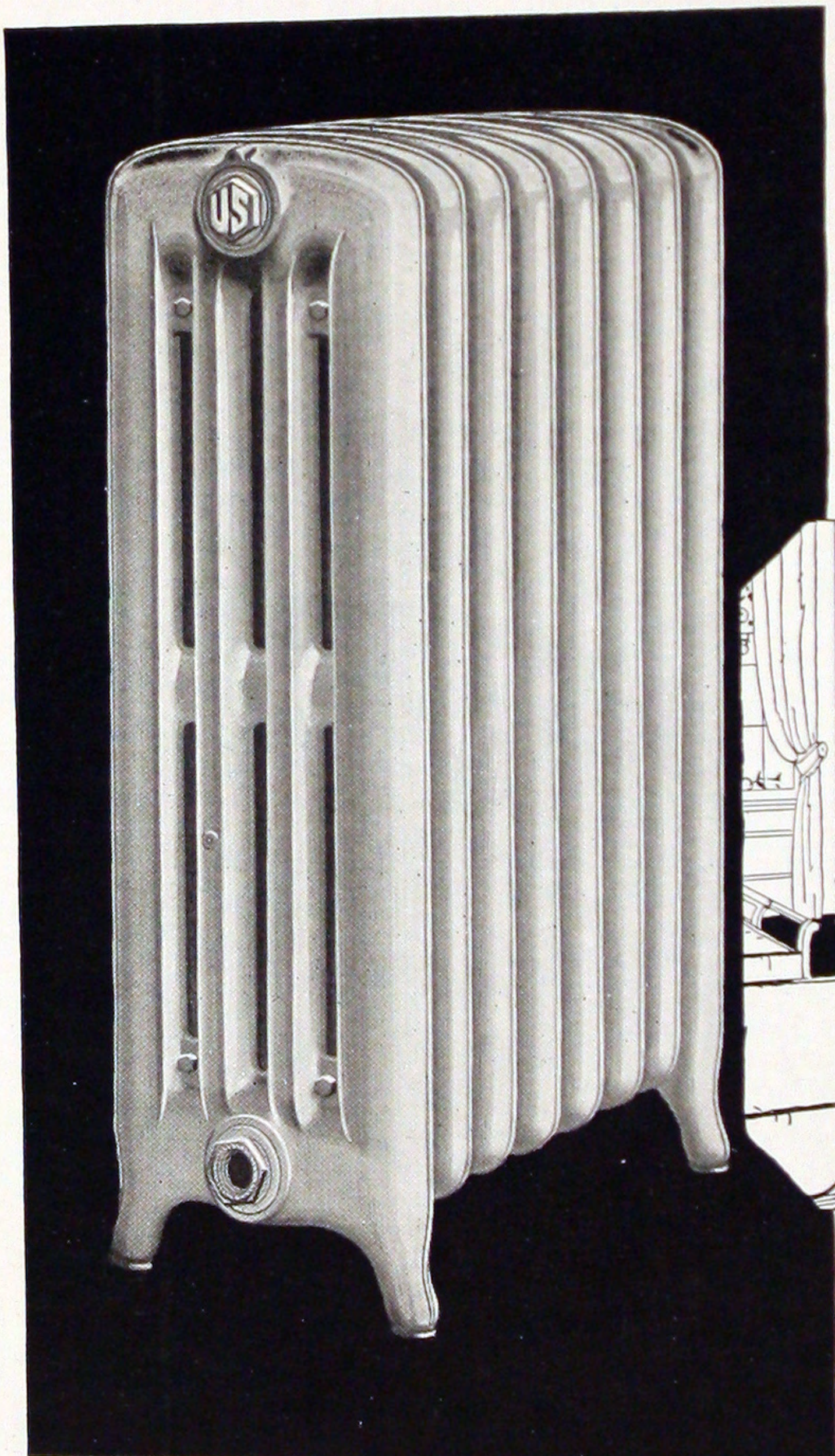
Above radiators tapped 2 inches at bottom and 1½ inches at top. Tappings are bushed as per list on page 18, unless otherwise ordered.

Distance from floor to center of lower tapping, 4½ inches.

| | 45 | 38 | 32 | 26 | 22 | 18 |
|---|---|---|---|---|---|---|
| Distance from floor to center of upper tapping ..... | 42⅜ | 35 $\frac{9}{16}$ | 29 $\frac{9}{16}$ | 23 $\frac{5}{8}$ | 19 $\frac{5}{8}$ | 15¾ |

*Allow ½-inch for each bushing in estimating length of radiators.

Made in the following special forms only. Side Wall for Concealed Brackets, steam or water. Legs extra high, solid (excepting 45-inch height), for steam or water. Direct-Indirect, for steam or water. Corner, curved and circular for steam or water.



*Oftentimes the four column Triton solves the problem of securing sufficient radiation in a small corner between two windows.*

FOUR COLUMN TRITON

WITH every Triton Radiator goes the greatest assurance of satisfaction. Design, materials, workmanship, and testing combine to attain perfection. Back of them stands one of the broadest guarantees in the industry.

## FOR STEAM OR WATER

### List of Sizes

| No. of Sections | *Lgth. Inches | Nominal Surface | | | | | |
|---|---|---|---|---|---|---|---|
| | | 44-Inch Height 10 Sq. Ft. per Section | 38-Inch Height 8 Sq. Ft. per Section | 32-Inch Height 6½ Sq. Ft. per Section | 26-Inch Height 5 Sq. Ft. per Section | 22-Inch Height 4 Sq. Ft. per Section | 18-Inch Height 3 Sq. Ft. per Section |
| 2 | 6 | 20 | 16 | 13 | 10 | 8 | 6 |
| 3 | 9 | 30 | 24 | 19½ | 15 | 12 | 9 |
| 4 | 12 | 40 | 32 | 26 | 20 | 16 | 12 |
| 5 | 15 | 50 | 40 | 32½ | 25 | 20 | 15 |
| 6 | 18 | 60 | 48 | 39 | 30 | 24 | 18 |
| 7 | 21 | 70 | 56 | 45½ | 35 | 28 | 21 |
| 8 | 24 | 80 | 64 | 52 | 40 | 32 | 24 |
| 9 | 27 | 90 | 72 | 58½ | 45 | 36 | 27 |
| 10 | 30 | 100 | 80 | 65 | 50 | 40 | 30 |
| 11 | 33 | 110 | 88 | 71½ | 55 | 44 | 33 |
| 12 | 36 | 120 | 96 | 78 | 60 | 48 | 36 |
| 13 | 39 | 130 | 104 | 84½ | 65 | 52 | 39 |
| 14 | 42 | 140 | 112 | 91 | 70 | 56 | 42 |
| 15 | 45 | 150 | 120 | 97½ | 75 | 60 | 45 |
| 16 | 48 | 160 | 128 | 104 | 80 | 64 | 48 |
| 17 | 51 | 170 | 136 | 110½ | 85 | 68 | 51 |
| 18 | 54 | 180 | 144 | 117 | 90 | 72 | 54 |
| 19 | 57 | 190 | 152 | 123½ | 95 | 76 | 57 |
| 20 | 60 | 200 | 160 | 130 | 100 | 80 | 60 |
| 21 | 63 | 210 | 168 | 136½ | 105 | 84 | 63 |
| 22 | 66 | 220 | 176 | 143 | 110 | 88 | 66 |
| 23 | 69 | 230 | 184 | 149½ | 115 | 92 | 69 |
| 24 | 72 | 240 | 192 | 156 | 120 | 96 | 72 |
| 25 | 75 | 250 | 200 | 162½ | 125 | 100 | 75 |

Each section is 12½ inches wide. Width of legs, 12 13/16 inches.

Above radiators are tapped 2 inches and bushed as per list on page 18, unless otherwise ordered.

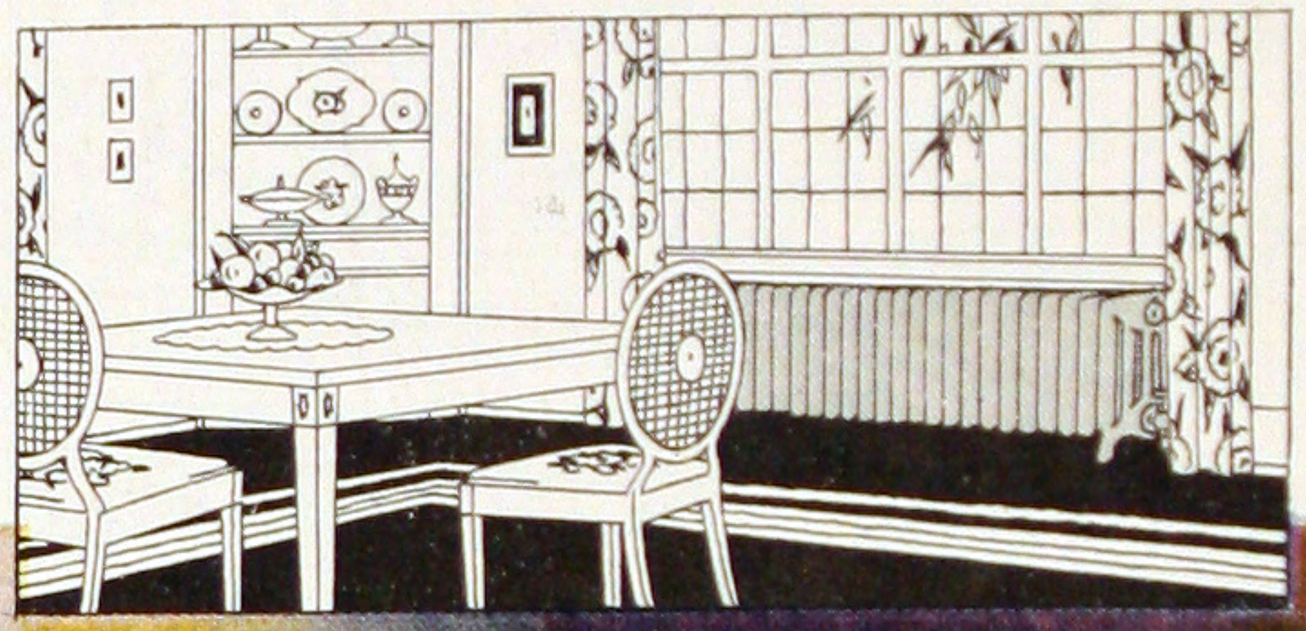
Distance from floor to center of lower tapping, 4½ inches.

| | 44 | 38 | 32 | 26 | 22 | 18 |
|---|---|---|---|---|---|---|
| Distance from floor to center of upper tapping . . . . . | 41 7/16 | 35 9/16 | 29 19/32 | 23 5/8 | 19 5/8 | 15 3/4 |

*Allow ½-inch for each bushing in estimating length of radiators.

---

Made in the following special forms only: Side Wall for Concealed Brackets, steam or water. Legs extra high, solid (excepting 44-inch height), for steam or water. Direct-Indirect for steam or water.



FIVE COLUMN TRITON

THERE are Triton Radiators particularly designed to meet every known requirement in every room in buildings of every description. Whatever the need may be there is no necessity for accepting less than Triton dependability. The Triton five-column window radiator shown above is one of the most popular of the special styles.

# FOR STEAM OR WATER

## List of Sizes

| Number of Sections | *Length Inches | Nominal Surface | | |
|---|---|---|---|---|
| | | 20-Inch Height 5 Sq. Ft. per Section | 17-Inch Height 4 Sq. Ft. per Section | 14-Inch Height 3 Sq. Ft. per Section |
| 2 | 6 | 10 | 8 | 6 |
| 3 | 9 | 15 | 12 | 9 |
| 4 | 12 | 20 | 16 | 12 |
| 5 | 15 | 25 | 20 | 15 |
| 6 | 18 | 30 | 24 | 18 |
| 7 | 21 | 35 | 28 | 21 |
| 8 | 24 | 40 | 32 | 24 |
| 9 | 27 | 45 | 36 | 27 |
| 10 | 30 | 50 | 40 | 30 |
| 11 | 33 | 55 | 44 | 33 |
| 12 | 36 | 60 | 48 | 36 |
| 13 | 39 | 65 | 52 | 39 |
| 14 | 42 | 70 | 56 | 42 |
| 15 | 45 | 75 | 60 | 45 |
| 16 | 48 | 80 | 64 | 48 |
| 17 | 51 | 85 | 68 | 51 |
| 18 | 54 | 90 | 72 | 54 |
| 19 | 57 | 95 | 76 | 57 |
| 20 | 60 | 100 | 80 | 60 |
| 21 | 63 | 105 | 84 | 63 |
| 22 | 66 | 110 | 88 | 66 |
| 23 | 69 | 115 | 92 | 69 |
| 24 | 72 | 120 | 96 | 72 |
| 25 | 75 | 125 | 100 | 75 |

Each section is 13 inches wide. Width of legs, 13 inches.

Above radiators are tapped 2 inches at bottom and 1½ inches at top. Tappings are bushed as per list on page 18, unless otherwise ordered.

Distance from floor to center of lower tapping, 3½ inches.

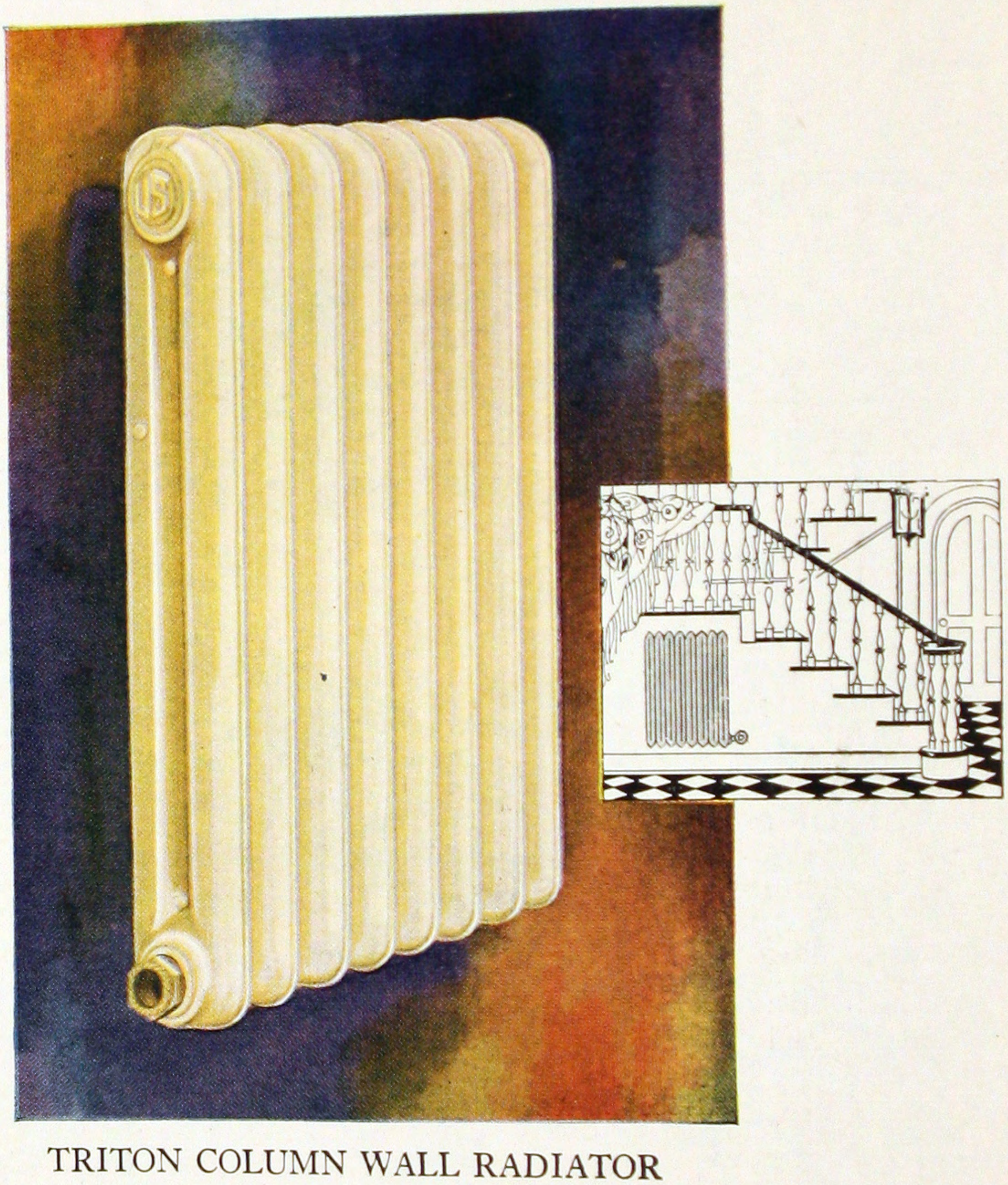
| | 20 | 17 | 14 |
|---|---|---|---|
| Distance from floor to center of upper tapping..... | 18 1/16 | 15 1/16 | 12 1/16 |

*Allow ½-inch for each bushing in estimating length of radiators.

---

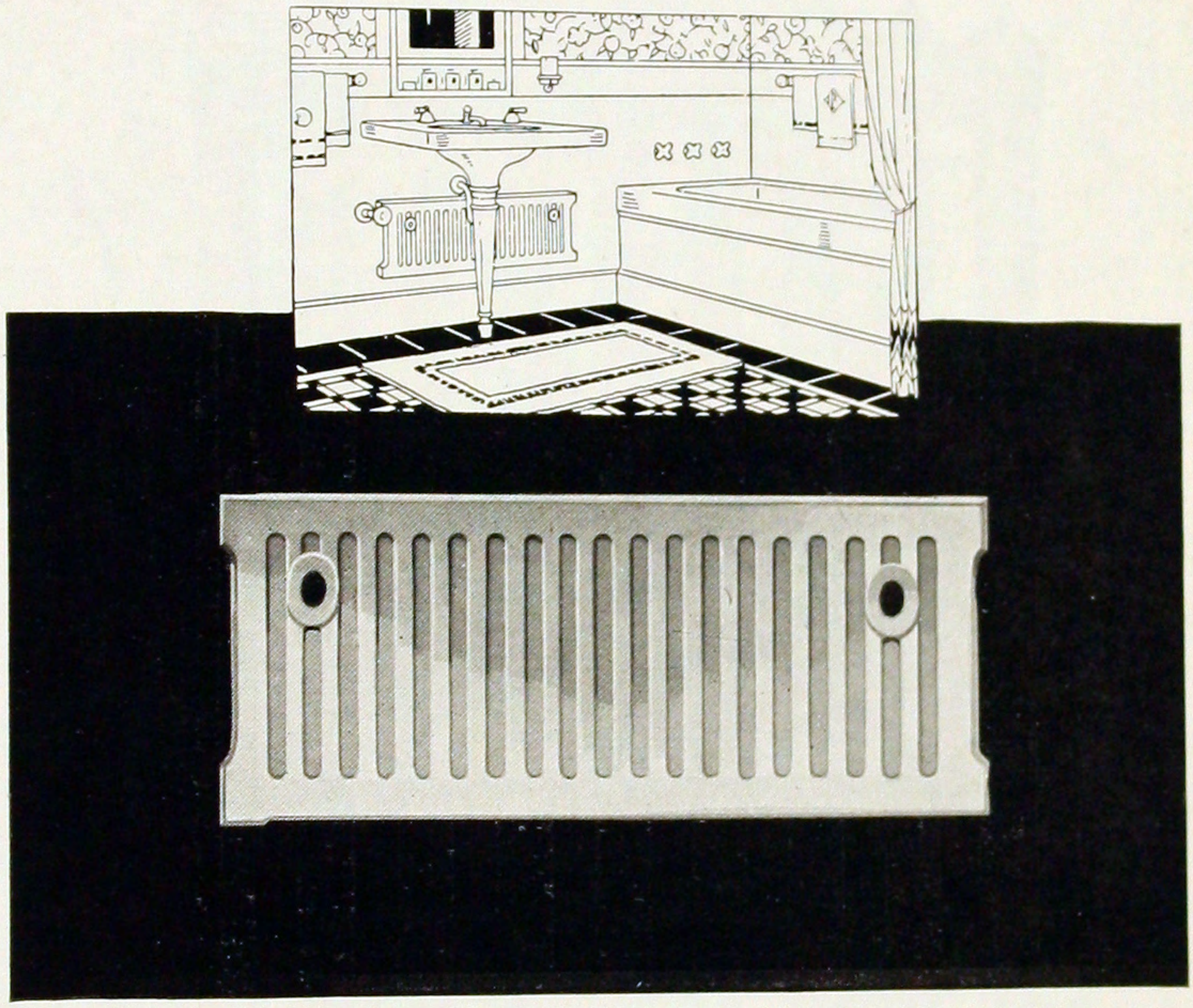
Made in the following special forms only: Legs extra high, solid, for steam or water; corner and curved, for steam or water.

# TRITON PLAIN COLUMN WALL RADIATORS



TRITON COLUMN WALL RADIATOR

THE growing demand for wall radiators is given added impetus by the fashion for fully carpeted floors. The housewife objects both to cleaning under radiators and to cutting expensive carpeting in fitting it around piping. Besides the two-column size illustrated, Triton one, three, and four column Radiators are supplied without legs. Dimensions, heights, tappings, etc. are the same as in the regular style. For brackets see pages 32 to 34.

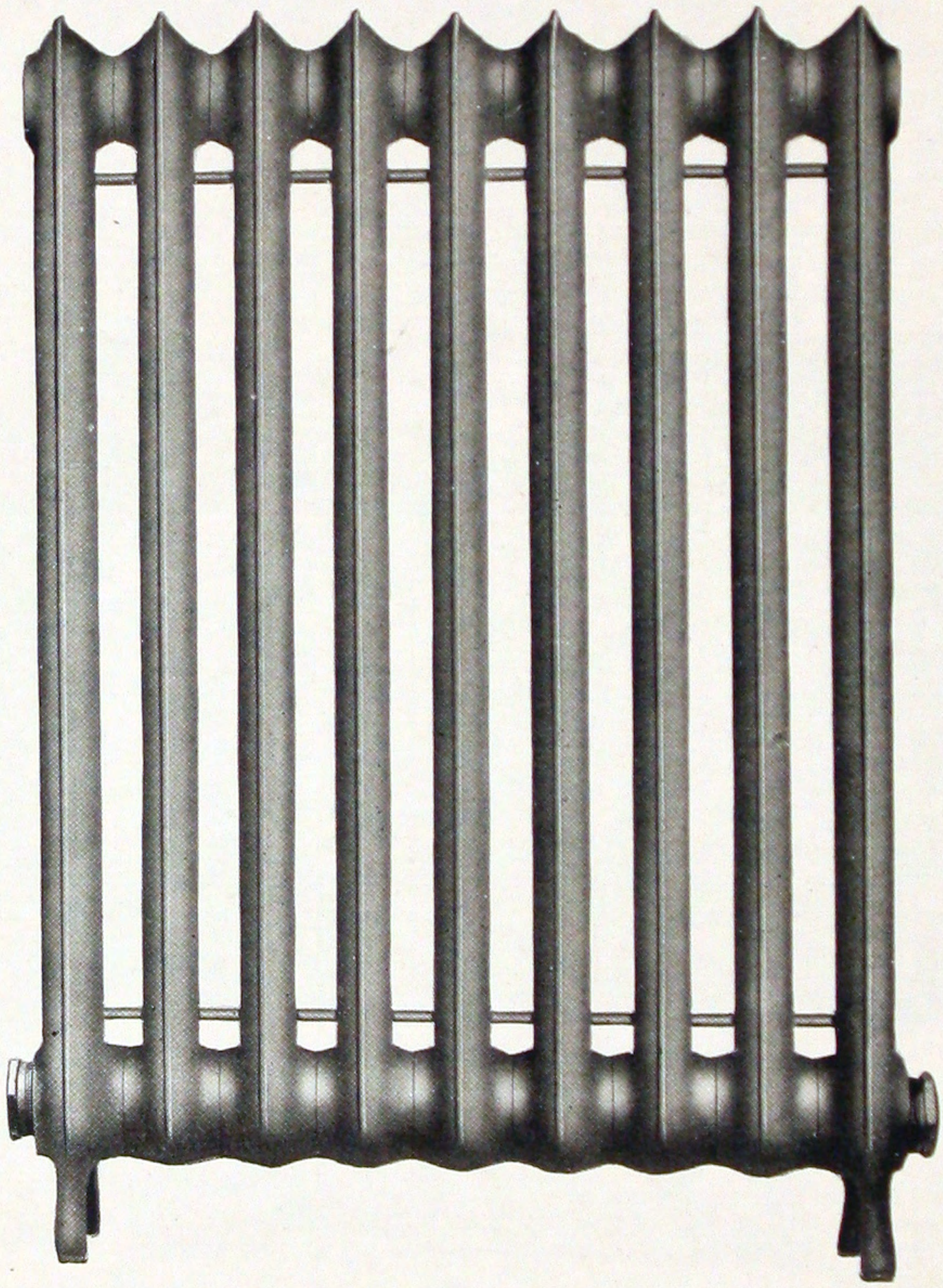


TRITON BATHROOM WALL RADIATOR

FITS under the lavatory, saving valuable space in modern bathrooms of limited dimensions. Attached with plain lag screws or hooks. Can be supplied in a new enamel finish as immaculately white as the bathroom fixtures that will neither chip, check, nor discolor.

| Number | Height Inches | Length Inches | Thickness Inches | Nominal Surface Sq. Ft. |
|---|---|---|---|---|
| 3½A | 8 | 20½ | 1½ | 3½ |

Above radiators tapped ½ inch.

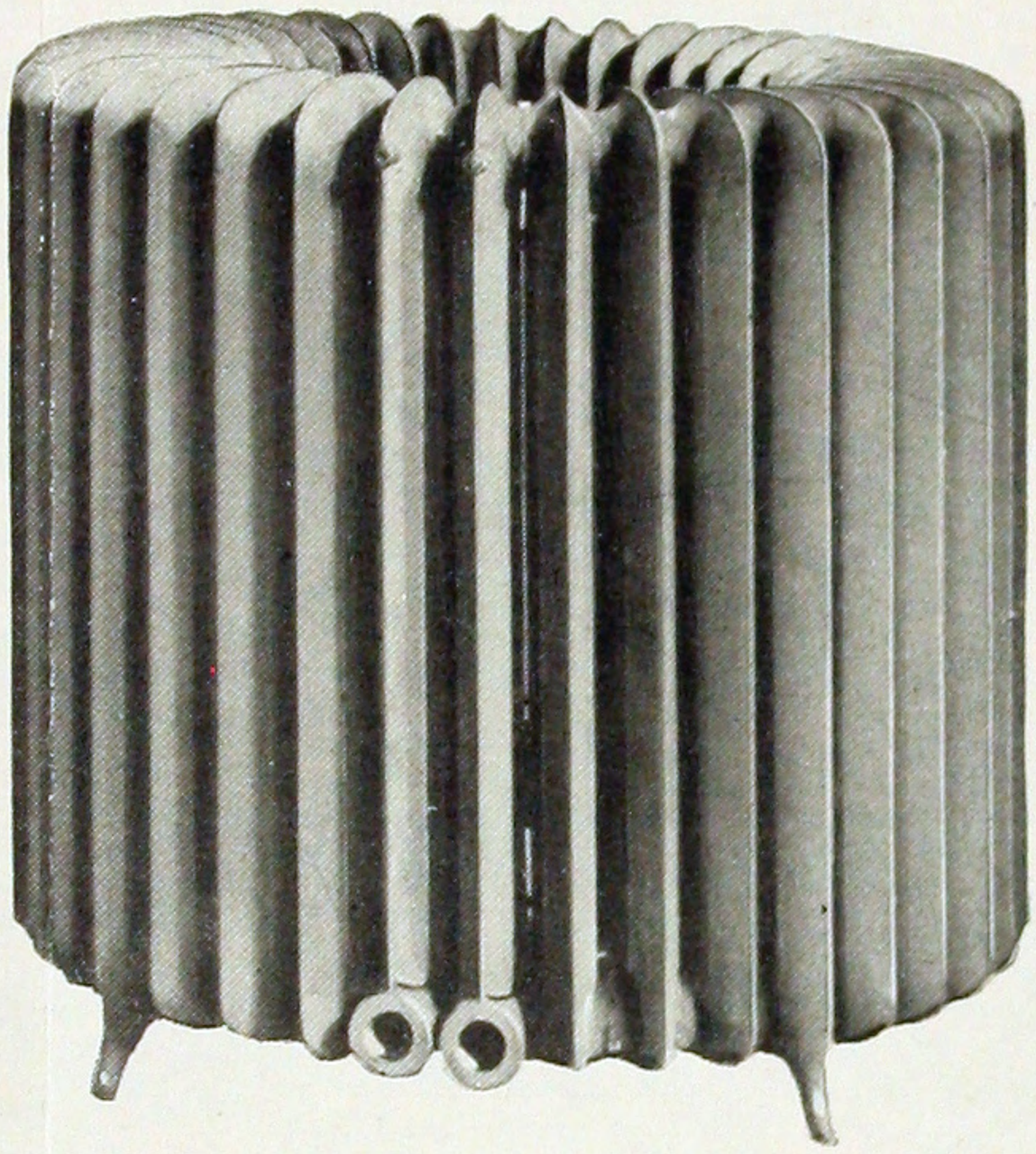


FOR STEAM OR WATER

EXTRA large spacing between sections allows the free access for thorough cleaning so essential in hospital radiators. Supplied in one, two, and three-column patterns, with three-inch centers.

One-column section, 4½ inches wide. Width of legs, $5\frac{1}{32}$ inches.
Two-column section, 7⅛ inches wide. Width of legs, $7\frac{13}{32}$ inches.
Three-column section, 9 inches wide. Width of legs, $9\frac{5}{16}$ inches.

*NOTE: In figuring length of Hospital Radiators, allow 3 inches per section. Heating surfaces are the same as in regular Triton patterns.*



## TRITON CIRCULAR RADIATORS

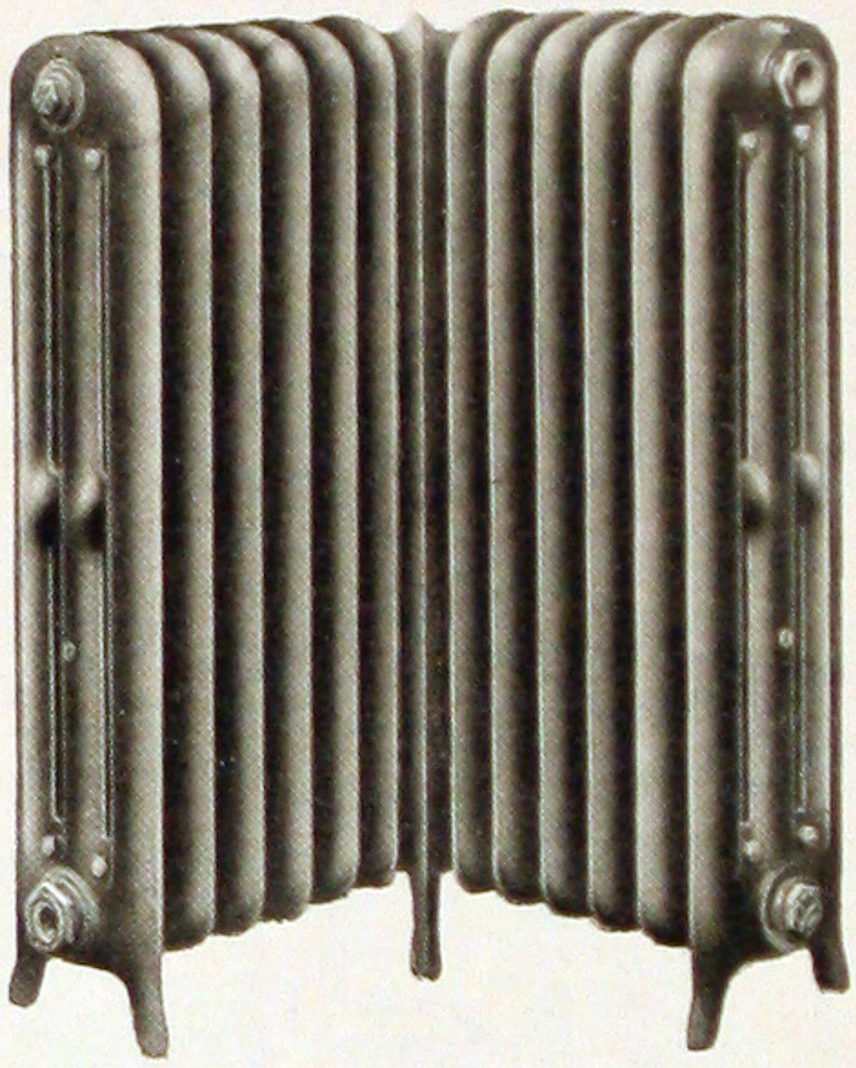
### Diameter in Inches

| No. of Sections in Stack | 1 Column | | 2 Column | | 3 Column | |
|---|---|---|---|---|---|---|
| | Inside Diam. at Legs | Outside Diam. at Legs | Inside Diam. at Legs | Outside Diam. at Legs | Inside Diam. at Legs | Outside Diam. at Legs |
| 12 | 8 3/8 | 18 1/2 | 6 | 20 7/8 | 4 1/8 | 22 3/4 |
| 14 | 9 3/4 | 19 7/8 | 7 3/8 | 22 1/4 | 5 1/2 | 24 1/8 |
| 16 | 11 1/8 | 21 1/4 | 8 3/4 | 23 5/8 | 6 7/8 | 25 1/2 |
| 18 | 12 1/2 | 22 5/8 | 10 1/8 | 25 | 8 1/4 | 26 7/8 |
| 20 | 14 1/8 | 24 1/8 | 11 3/4 | 26 1/2 | 9 3/4 | 28 1/2 |
| 22 | 15 1/2 | 25 1/2 | 13 1/8 | 27 7/8 | 11 1/8 | 29 7/8 |
| 24 | 17 1/8 | 27 1/4 | 15 | 29 3/4 | 13 | 31 3/4 |
| 26 | 18 1/4 | 28 1/4 | 15 7/8 | 30 5/8 | 13 7/8 | 32 5/8 |
| 28 | 19 7/8 | 30 | 17 1/2 | 32 3/8 | 15 5/8 | 34 1/4 |
| 30 | 21 | 31 1/8 | 19 5/8 | 33 1/2 | 16 3/4 | 35 3/8 |
| 32 | 22 5/8 | 32 3/4 | 20 1/4 | 35 1/8 | 18 3/8 | 37 |
| 34 | 23 7/8 | 33 7/8 | 21 1/2 | 36 1/4 | 19 1/2 | 38 1/4 |
| 36 | 25 3/8 | 35 3/8 | 23 | 37 3/4 | 21 | 39 3/4 |
| 38 | 26 5/8 | 36 5/8 | 24 1/4 | 39 | 22 1/4 | 41 |
| 40 | 28 | 38 1/8 | 25 5/8 | 40 1/2 | 23 3/4 | 42 3/8 |
| 42 | 29 3/8 | 39 1/2 | 27 | 41 7/8 | 25 1/8 | 43 3/4 |
| 44 | 30 7/8 | 41 | 28 1/2 | 43 3/8 | 26 5/8 | 45 1/4 |
| 46 | 32 1/2 | 42 5/8 | 30 1/8 | 45 | 28 1/4 | 46 7/8 |
| 48 | 34 3/8 | 44 3/8 | 32 | 46 3/4 | 30 | 48 3/4 |
| 50 | 34 7/8 | 45 | 32 1/2 | 47 3/8 | 30 5/8 | 49 1/4 |
| 52 | 36 1/8 | 46 1/4 | 33 3/4 | 48 5/8 | 31 7/8 | 50 1/2 |
| 54 | 38 | 48 1/8 | 35 5/8 | 50 1/2 | 33 3/4 | 52 3/8 |
| 56 | 39 | 49 1/8 | 36 5/8 | 51 1/2 | 34 3/4 | 53 3/8 |
| 58 | 41 | 51 | 39 5/8 | 53 5/8 | 36 5/8 | 55 3/8 |
| 60 | 42 3/4 | 52 3/4 | 40 3/8 | 55 1/8 | 38 3/8 | 57 1/8 |

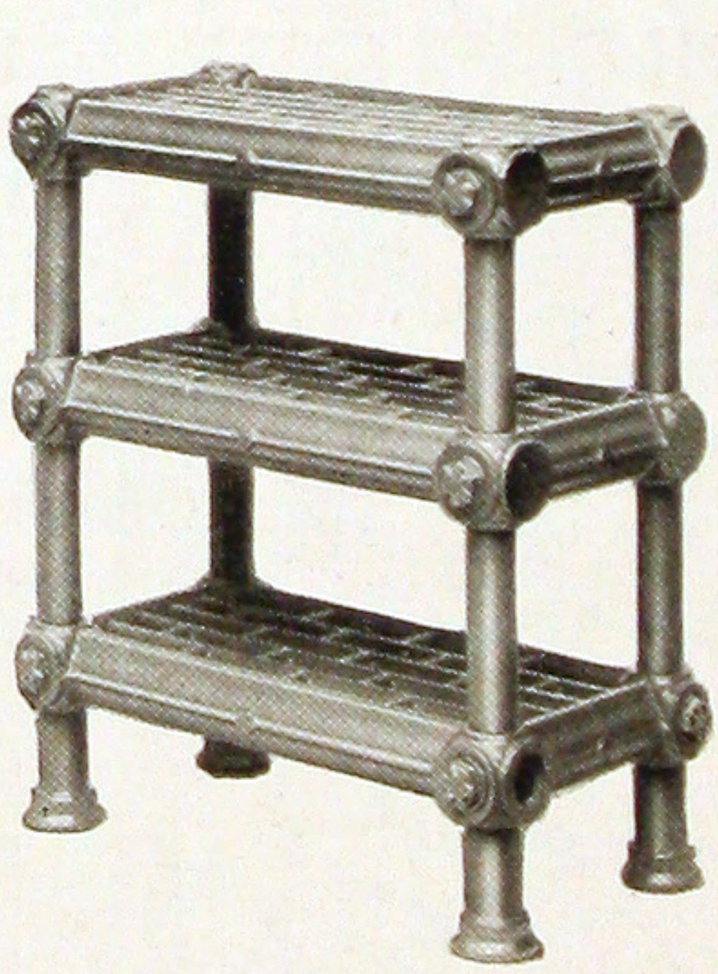
Circular Radiators may be ordered assembled in one piece or disconnected in halves to be assembled at the job. Or they may be built in halves to be installed as two separate radiators.

Marble Tops can be furnished if desired.

# TRITON CORNER AND PANTRY RADIATORS



Triton corner radiators for steam or water are made in the same heights as the regular pattern.



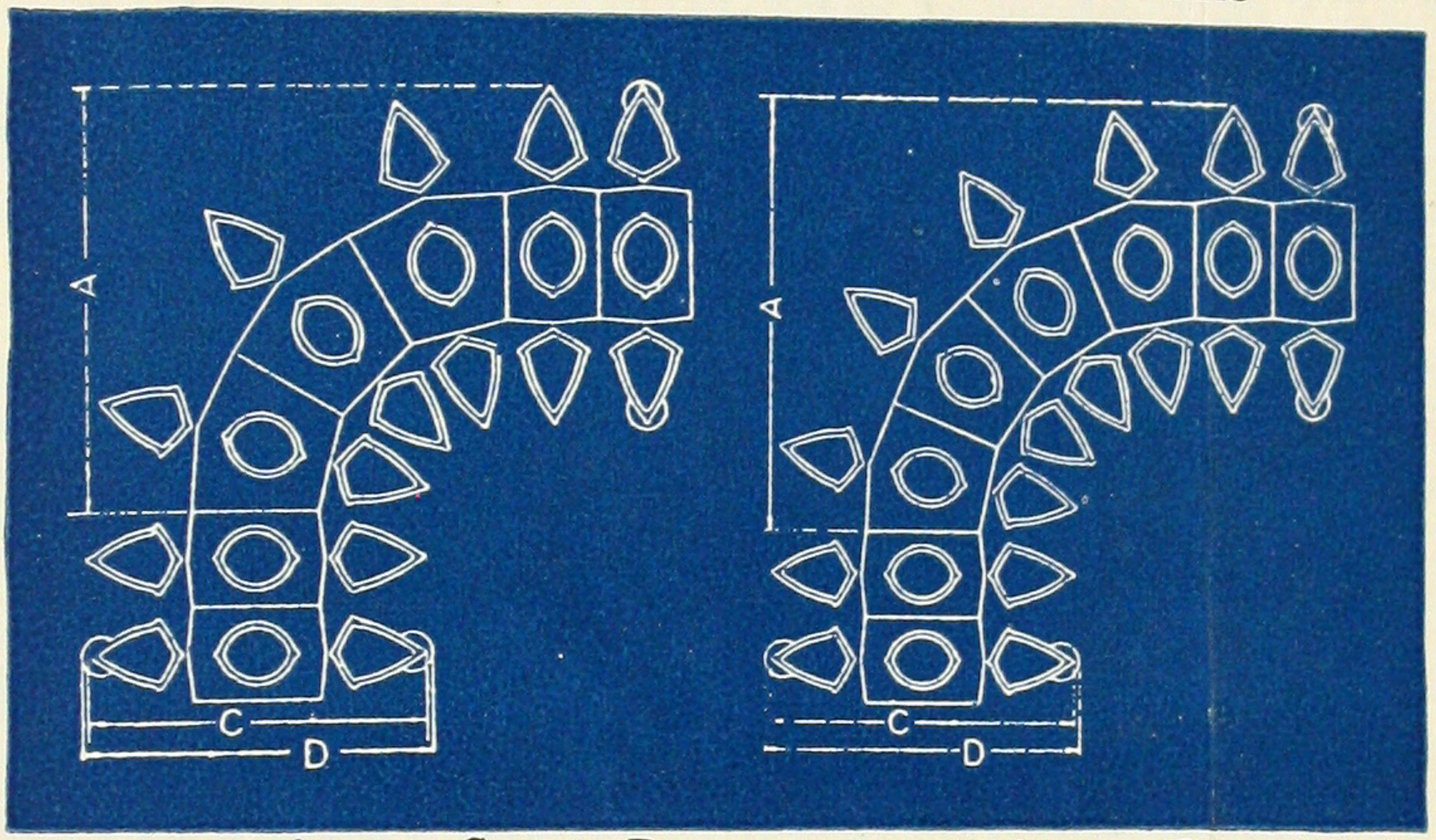
## PANTRY RADIATORS FOR STEAM OR WATER

A great aid in butler's pantries, restaurants and dining rooms. Heats rooms and affords the additional service of plate warming. Made up from seven-foot sections only and may be from one to five sections high. All openings on lower shelf are tapped.

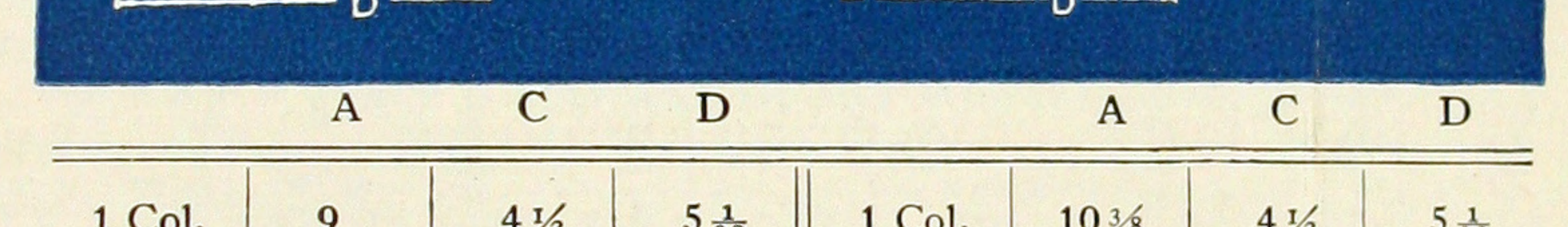
| Number | Height Inches | Nominal Surface Square Feet | List Price |
|---|---|---|---|
| 1 | 7 | 7 | $16.00 |
| 2 | 17 | 15 | 30.00 |
| 3 | 27 | 23 | 44.00 |
| 4 | 37 | 31 | 58.00 |
| 5 | 47 | 39 | 72.00 |

Length 24 ¼ inches. Width 13 ¼ inches.
Above radiators are tapped 1½ inches.

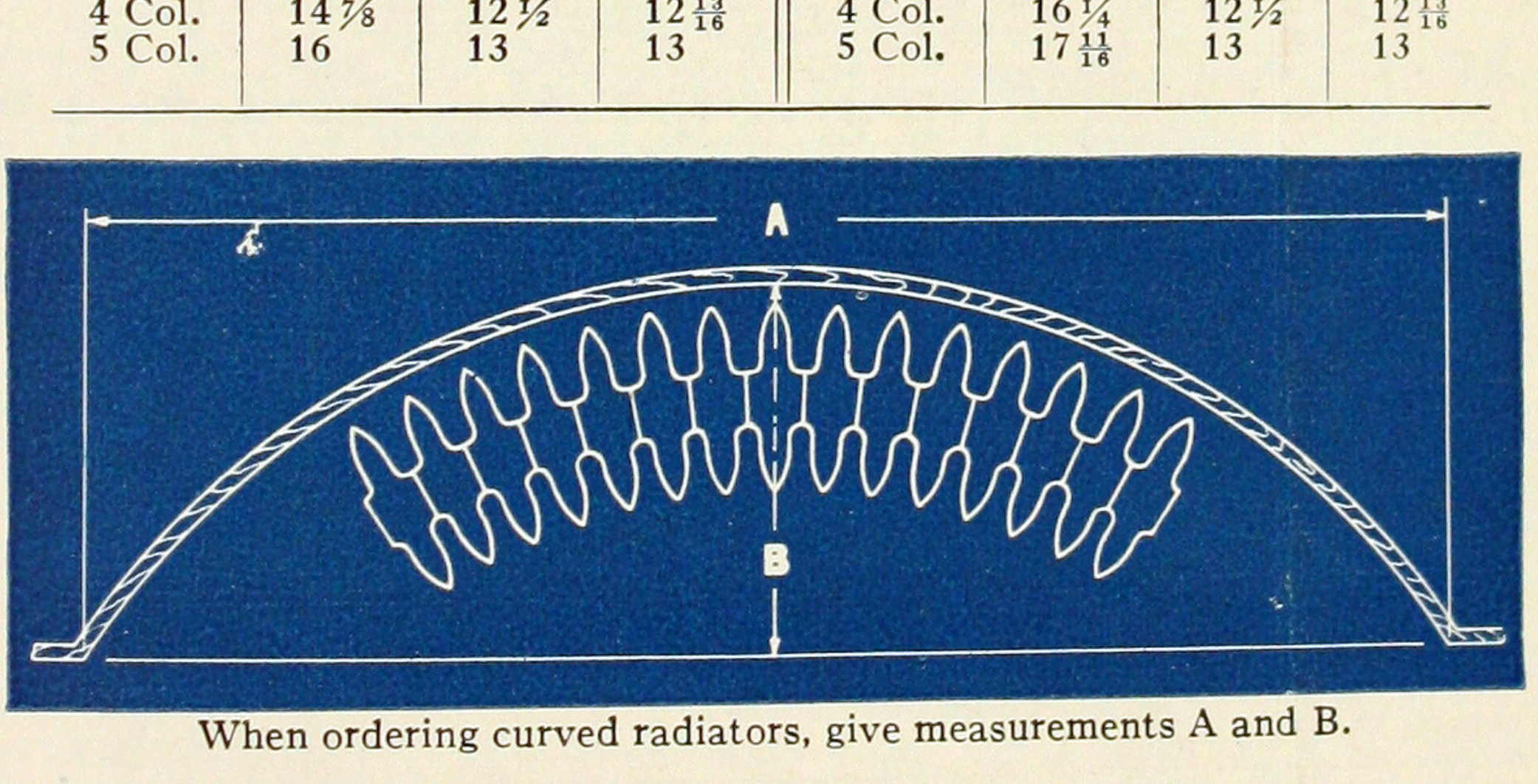
## MEASUREMENTS FOR TRITON RADIATORS




| A | C | D | A | C | D |
|---|---|---|---|---|---|
| 1 Col. | 9 | 4 ½ | 5 1/32 | 1 Col. | 10 3/8 | 4 ½ | 5 1/32 |
| 2 Col. | 10 ¼ | 7 ⅛ | 7 13/32 | 2 Col. | 11 5/8 | 7 ⅛ | 7 13/32 |
| 3 Col. | 11 ¼ | 9 | 9 5/16 | 3 Col. | 12 5/8 | 9 | 9 5/16 |
| 4 Col. | 14 ⅞ | 12 ½ | 12 13/16 | 4 Col. | 16 ¼ | 12 ½ | 12 13/16 |
| 5 Col. | 16 | 13 | 13 | 5 Col. | 17 11/16 | 13 | 13 |




When ordering curved radiators, give measurements A and B.




When ordering bay window radiators, give measurements A, B and C.

ALL Column Radiators are tapped two inches at bottom of both ends, and one and one-half inches at top of supply end. Tappings are bushed as per list below, unless otherwise ordered. Smaller tappings can be furnished on special order.

All Wall Radiators are tapped one and one-half inches.

All Column Radiators have right-hand threads at both supply and return, and all Wall Radiators have right-hand threads at one end, and left-hand threads at the other end.

All Air Valve tappings are 1/8-inch. When Radiators are ordered for special systems, such as vapor or vacuum, specific instructions should be given as to the method of tapping for supply, return and vent.

## STEAM

### *One-Pipe Work*

| | |
|---|---|
| Radiators containing 24 square feet and under | 1 inch |
| Above 24, but not exceeding 60 square feet | 1 1/4 inch |
| Above 60, but not exceeding 100 square feet | 1 1/2 inch |
| Above 100 square feet | 2 inch |

### *Two-Pipe Work*

| | |
|---|---|
| Radiators containing 48 square feet and under | 1 x 3/4 inch |
| Above 48, but not exceeding 96 square feet | 1 1/4 x 1 inch |
| Above 96 square feet | 1 1/2 x 1 1/4 inch |

## WATER

### *Tapped for Supply and Return*

| | |
|---|---|
| Radiators containing 40 square feet and under | 1 inch |
| Above 40, but not exceeding 72 square feet | 1 1/4 inch |
| Above 72 square feet | 1 1/2 inch |

## CENTER LEGS

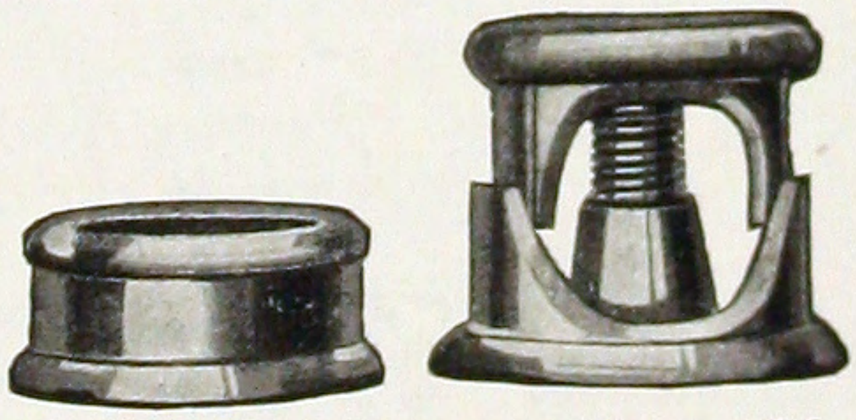
For all radiation, all columns, 45″, 38″ and 32″ heights: No center legs will be assembled in radiators up to and including 25 sections. Radiators from 26 to 49 sections inclusive will require one center leg. Radiators from 50 to 73 sections inclusive will require two center legs. Beyond 73 sections, three center legs will be used.

For all radiation, all columns, 26″ heights and under: No center legs will be assembled in radiators up to and including 30 sections. Radiators from 31 to 59 sections will require one center leg. Radiators from 60 to 88 sections will require two center legs. Beyond 88 sections, three center legs will be used.

## HIGH LEGS

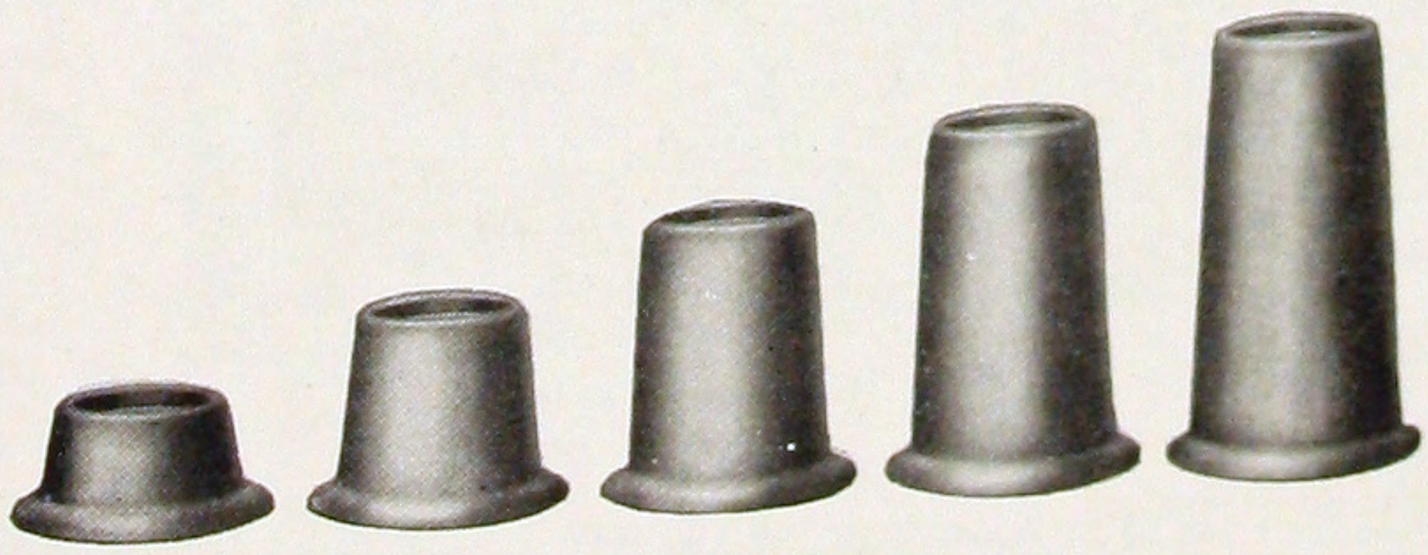
On Special Order only, all styles of our Radiators (except 44 and 45-inch heights) can be furnished with extra high solid legs, for which an extra charge will be made. On 44 and 45-inch heights, legs cannot be furnished higher than 6 inches. Other heights can be furnished as high as 10 inches. No charge will be made for 6-inch-high legs.

## ADJUSTABLE FEET



Consist of two iron blocks that open by turning the top piece which is so cast that any radiator foot will fit securely. Adjustment can be made with the screw, which holds the two pieces in place. They can be used on any kind of fixture that must stand level. Furnished in plain iron and can be bronzed to correspond to fixture upon them.

No. 1 extends ⅞ to 1¼ inches.
No. 2 extends 1¼ to 1¾ inches.
No. 3 extends 1½ to 2½ inches.
No. 4 extends 2 to 3 inches.
No. 5 extends 3 to 4 inches.
No. 6 extends 4 to 5 inches.

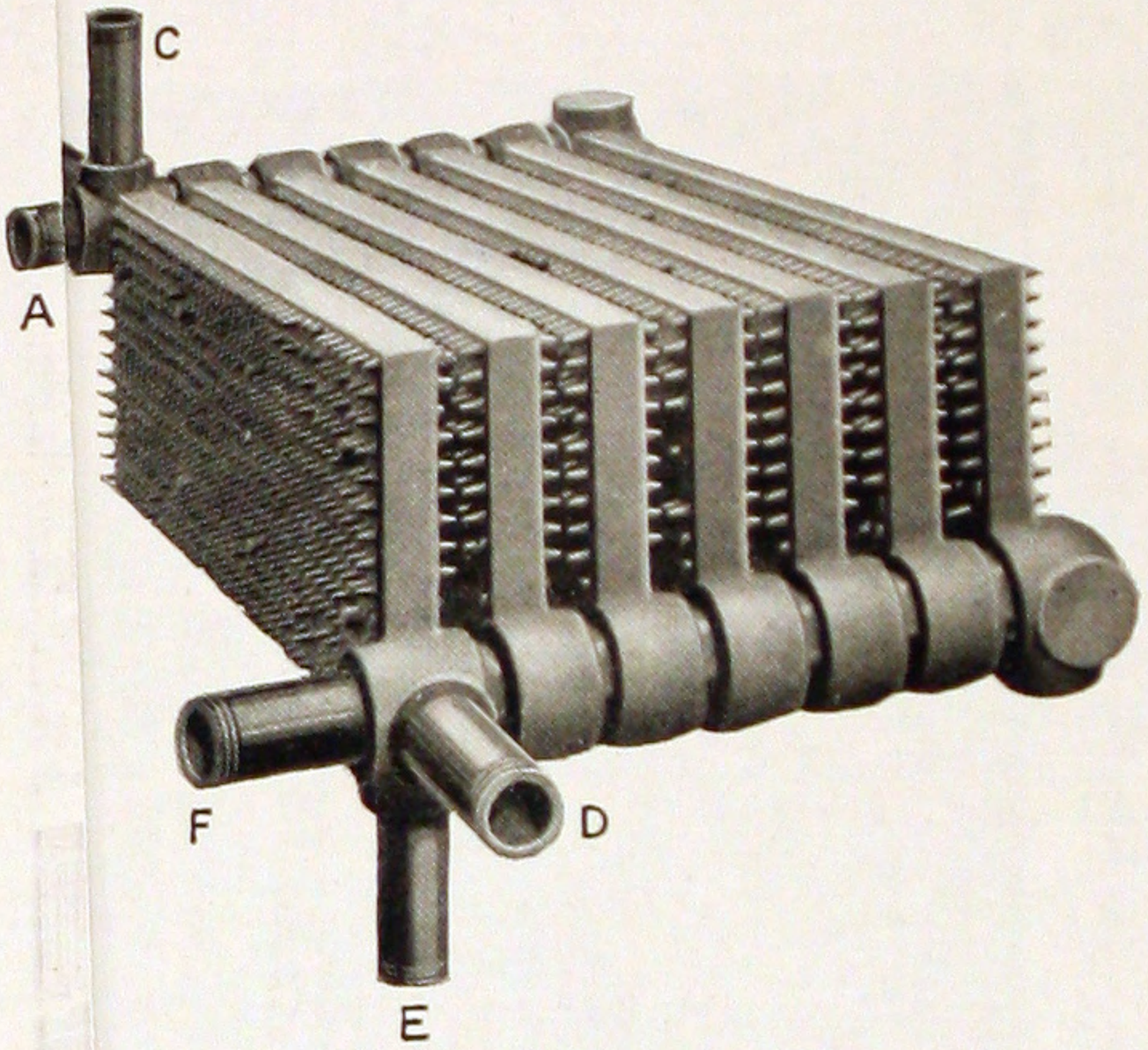


## PEDESTALS

Solid cast-iron pedestals can be furnished for placing under legs of all styles of our radiators and are made in the following heights:

½, ¾, 1, 1½, 2, 2½, 3, 3½, 4, 4½, 5, 5½ and 6 inches.

## PIN INDIRECT RADIATORS




### 10 SQUARE FEET PER SECTION

| Length of Section Inches | Depth of Section Inches | Depth Over All Inches | Center to Center Between Sections, Inches | Free Air Space Between Sections, Sq. Ft. |
|---|---|---|---|---|
| 36 1/4 | 7 3/4 | 8 5/8 | 3 | .2703 |

Maximum ngs 1 ½″ at A and F, 1 ¼″ at B, C, D and E.

### 5 SQUARE FEET PER SECTION

| | | | | |
|---|---|---|---|---|
| 36 5/8 | 10 5/8 | 11 5/8 | 3 | .2236 |

Maximum gs 2″ at A and F, and 1½″ at B, C, D and E.

### ) SQUARE FEET PER SECTION

| | | | | |
|---|---|---|---|---|
| 36 | 14 | 14¾ | 3½ | .3494 |

Maximum gs 2″ at A, F, B, C, D and E.

Tappings orect Radiators can be made at A, B, C, D, E, or F, but unless o se ordered they will be tapped at A and F, as follows:

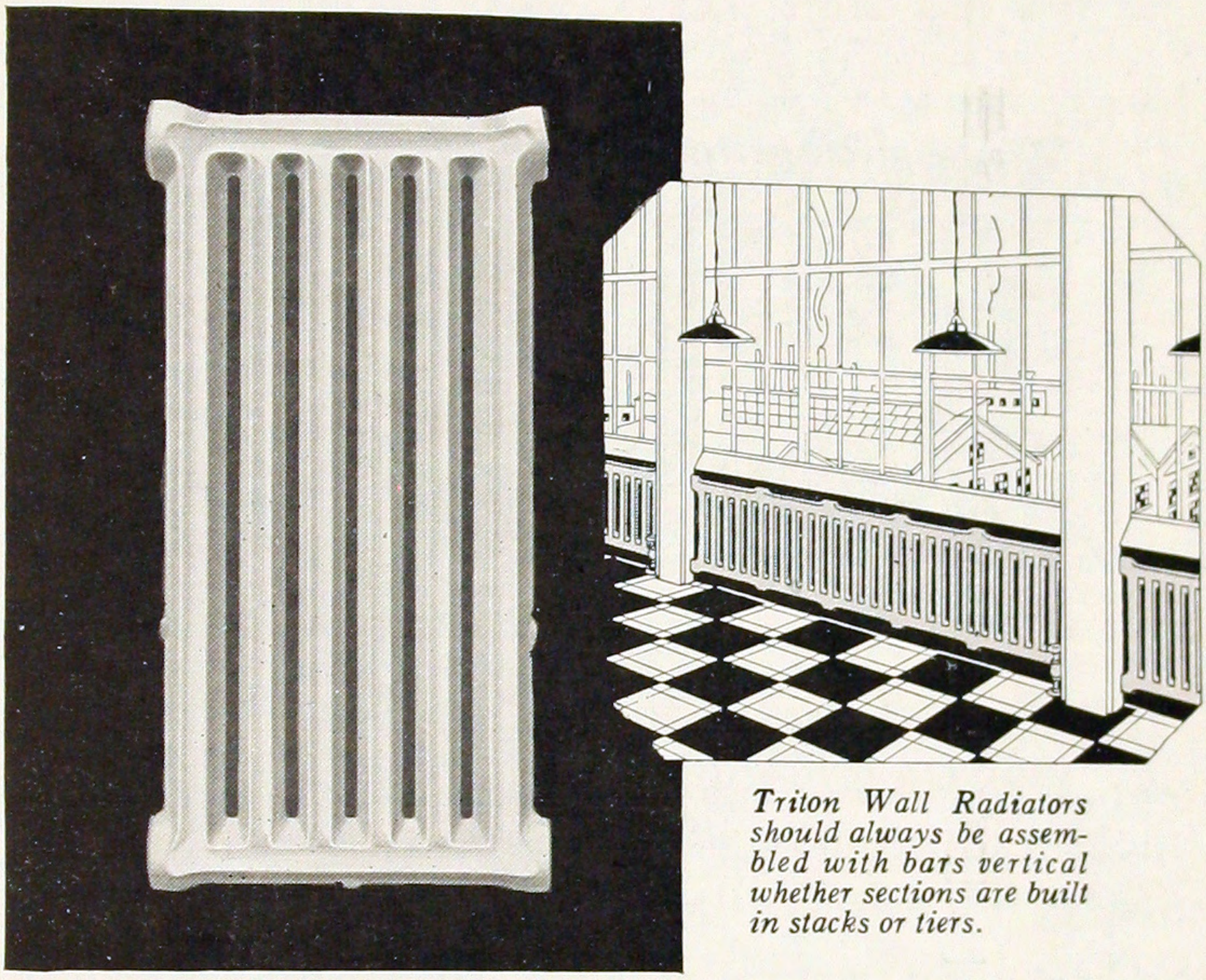
Pin 10-foon, 1½ inches; Pin 15 and 20-foot, 2 inches; bushed as desired.

All Pin I sections are regularly connected with extra heavy malleable ir nipples but on special order extra heavy right and left hand scples having hexagon nut at center can be furnished.

Radiator s are assembled at factory and shipped complete, unless espeordered otherwise. By assembling at factory the radiators ca oroughly tested to prevent leaky joints and at the same time s ch of fitter's time in setting.

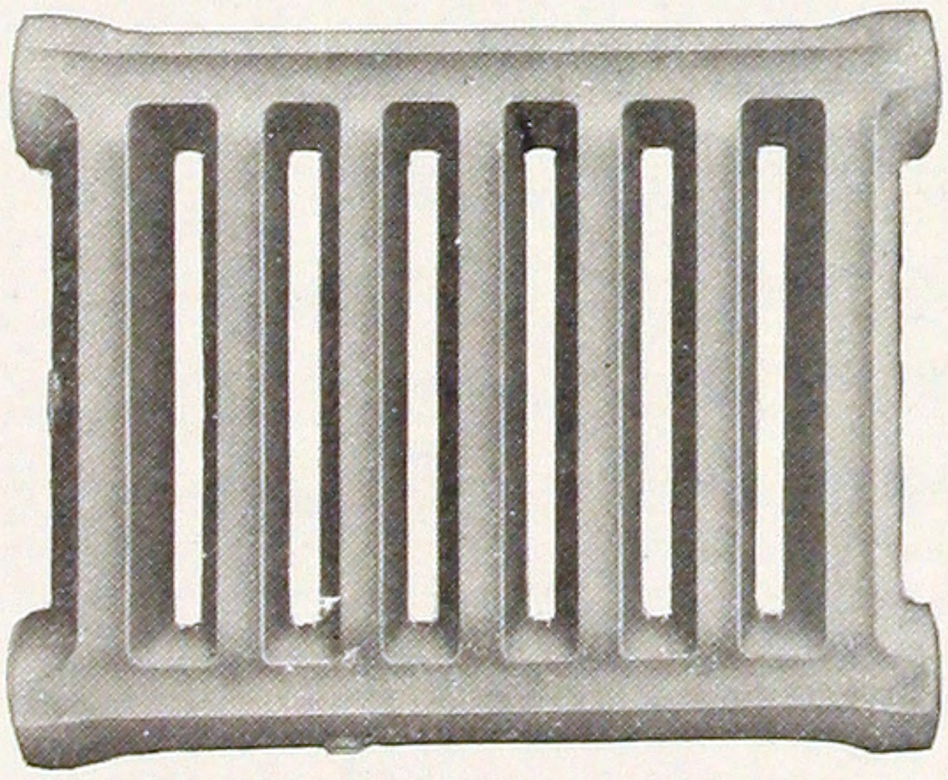
When sp ordered, sections are shipped unassembled with bolts and nir putting together, but when so ordering always specify the of stacks and number of sections in each stack, that the prots may be sent.

See Engir Data Catalogue for data on indirect radiators.

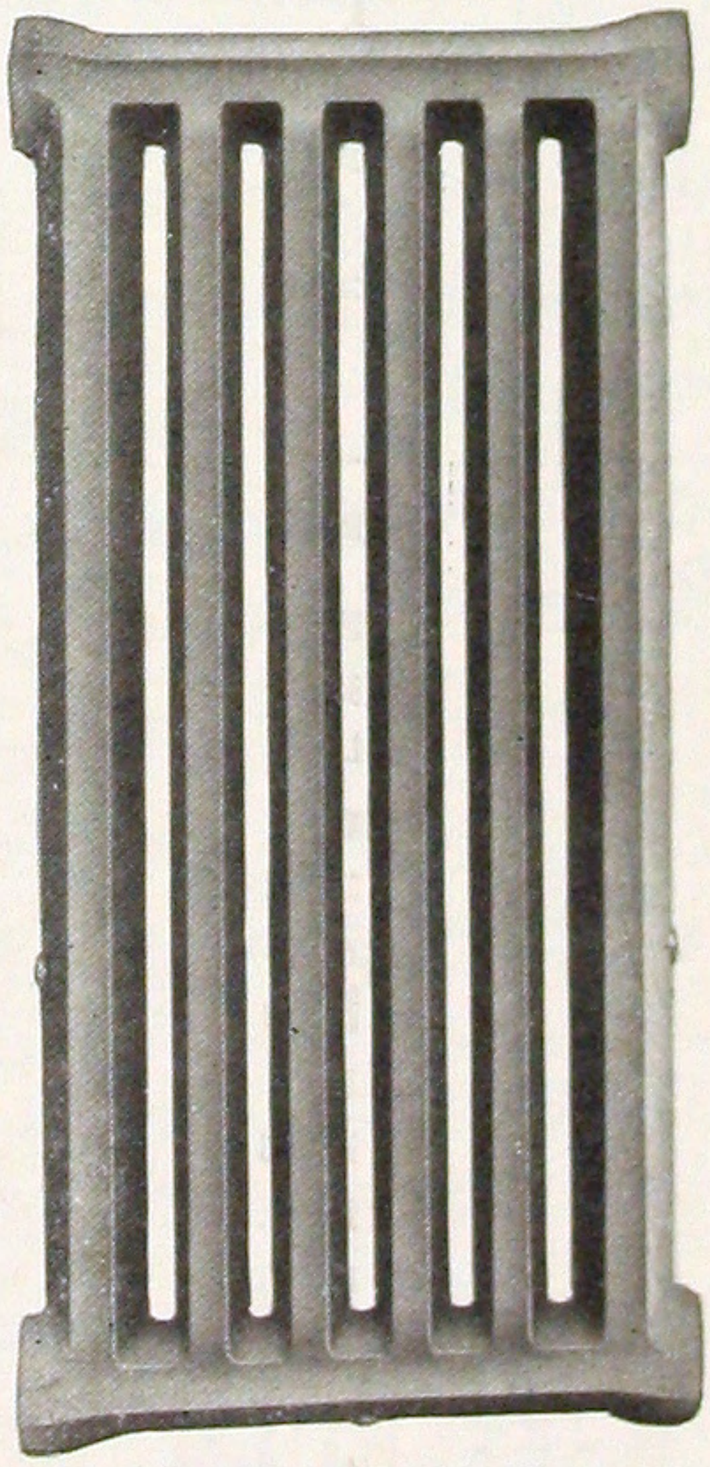


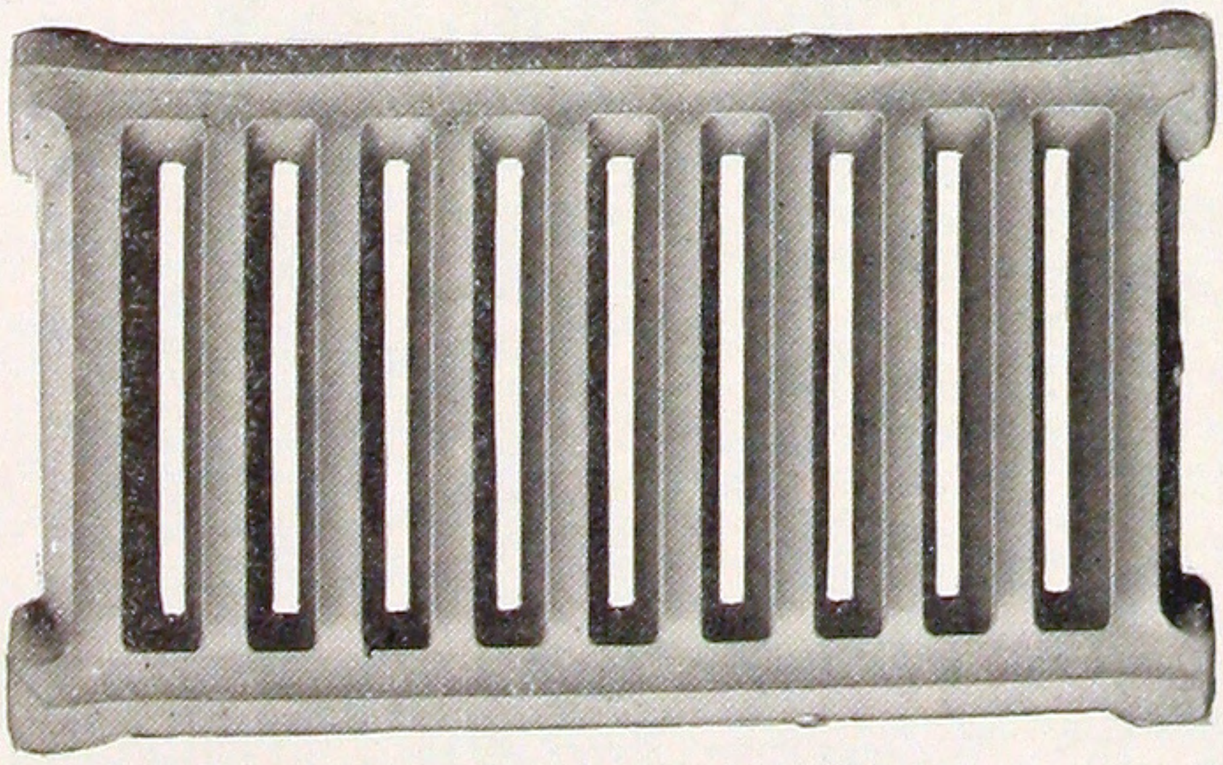
*Triton Wall Radiators should always be assembled with bars vertical whether sections are built in stacks or tiers.*

No. 7-B for side by side assembly



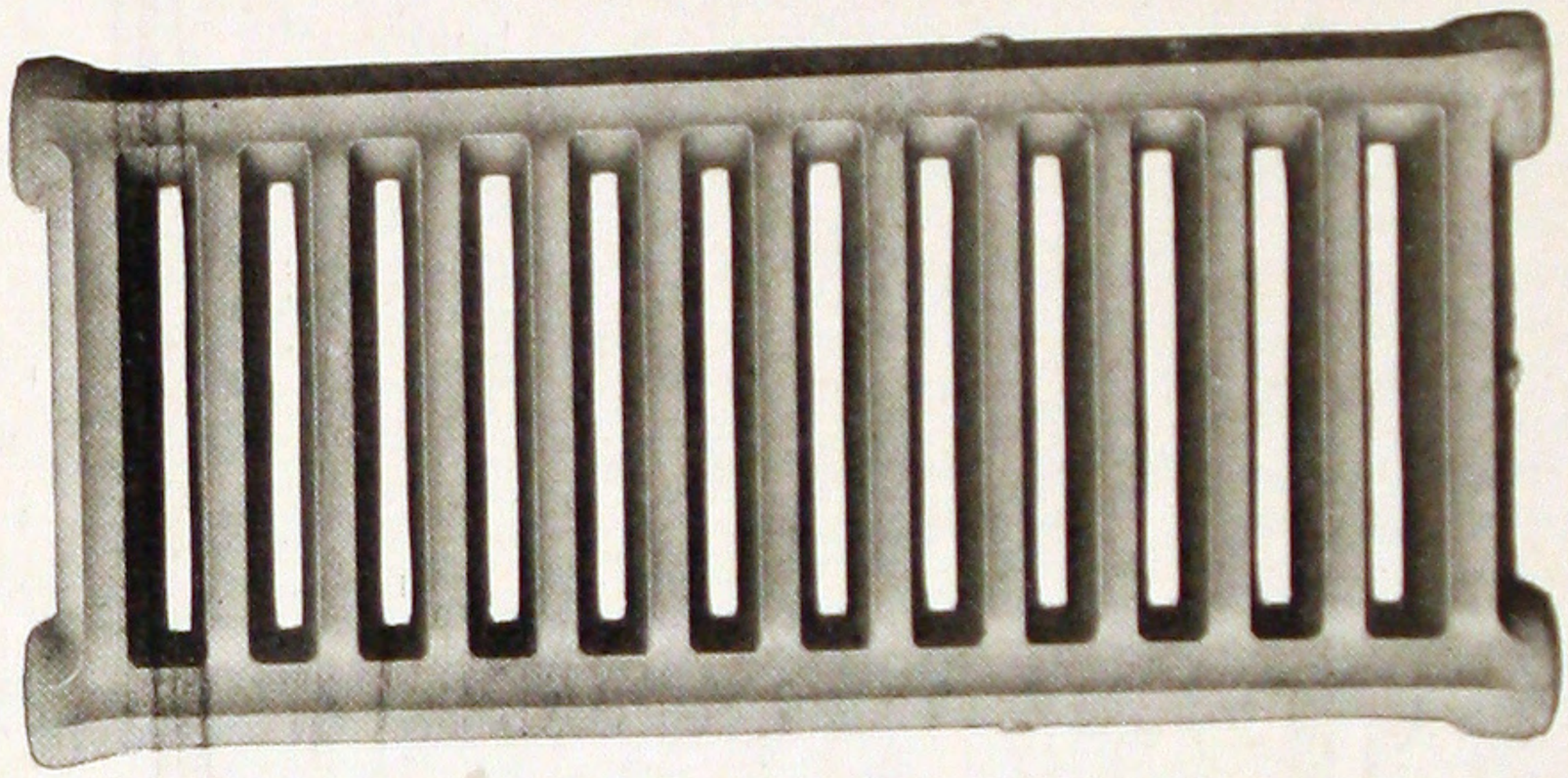
No. 5-A for end to end assembly





No. 7-A for end to end assembly

No. 9-B for side by side assembly



NO. 9-A FOR END TO END ASSEMBLY

FOR factories, storage houses, corridors, stairways, lobbies, and wherever the utmost radiating surface is needed in limited space, Triton Wall Radiators are unexcelled.

The wide variety of sizes adaptable to either tier or stack arrangement permits adapting their installation to any wall space available.

Sections may be added at any time should the building be enlarged. Steam or water may be confined to any number of the units during mild weather, assuring uniform temperatures with maximum economy. Condensed steam or exhaust steam often available in industrial installations may be utilized with the greatest efficiency.

No wall radiators are built that are more efficient, adaptable, or durable.

| Section Numbers | Height Inches | Length or Width Inches | Thickness Inches | Thickness With Brkts. Inches | Heating Surface Sq. Ft. |
|---|---|---|---|---|---|
| 5A | 14 1/8 | 16 1/2 | 3 | 3 1/2 | 5 |
| 7A | 14 1/8 | 22 7/8 | 3 | 3 1/2 | 7 |
| 9A | 14 1/8 | 29 1/4 | 3 | 3 1/2 | 9 |
| 7B | 22 7/8 | 14 1/8 | 3 | 3 1/2 | 7 |
| 9B | 29 1/4 | 14 1/8 | 3 | 3 1/2 | 9 |

Above radiators are tapped 1 1/2 inches.

## WALL RADIATORS

IN ordering state the size and number of sections to each radiator, give the assembly figure number and state the number of "Tiers" high or "Stacks" wide, as the case may be. State also the size and location of tappings desired, using the tapping numbers shown on figure for this purpose.

Sections are assembled for shipment only in single tiers or single stacks. Where figures show double tiers or double stacks it is to be understood that the figures will be shipped disconnected at the hexagon nipples. Note that when sections, regardless of type, are assembled side to side, the maximum number of sections which will be shipped assembled is, for each size:—

5 ft.—5 sections
7 ft.—5 sections
9 ft.—5 sections

See Figures 9-11-13-15-2-6

And when assembled end to end the maximum number of sections which will be shipped assembled is, for each size:—

5 ft.—5 sections
7 ft.—4 sections
9 ft.—3 sections

See Figures 1-3-5-7-15-8-10-12

The regular tappings as shown on the various assembly figures are indicated by 2, 3, 4, 5, 6, 7, 8 and 9. 12, 13, 14, 15, 16, 17, 18, 19 indicate special tappings which can be furnished at points so marked if required and for which an extra charge of 10 cents each, net, will be made.

Numbers 2, 9, 3, 4, and 12, 19, 13, 14 are left hand tappings.

Numbers 5, 6, 7, 8, and 15, 16, 17, 18 are right hand tappings.

Tappings are 1½" supply and return and are bushed as per list on page 18.

## CRATING

Units of Triton Wall Radiators are crated as follows:

### HORIZONTAL—7 FOOT AND 9 FOOT

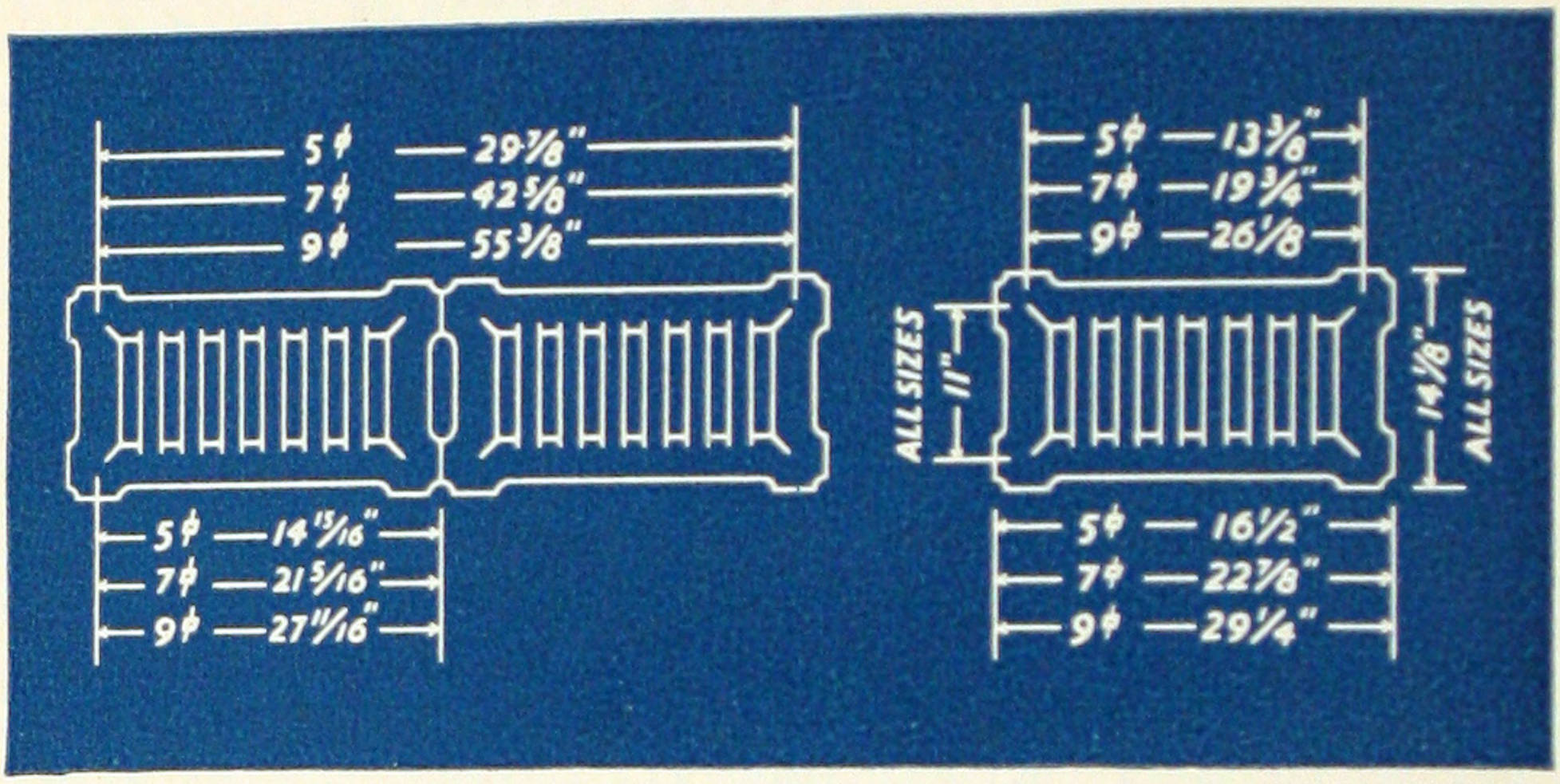
When assembled as per figure 1—3 sections and over.
When assembled as per figure 9—5 sections and over.

### VERTICAL—7 FOOT AND 9 FOOT

When assembled as per figure 2—5 sections and over.
When assembled as per figure 8—3 sections and over.

### 5 FOOT

All assembling of 4 sections and over.




*Above measurements apply to A or B styles.*

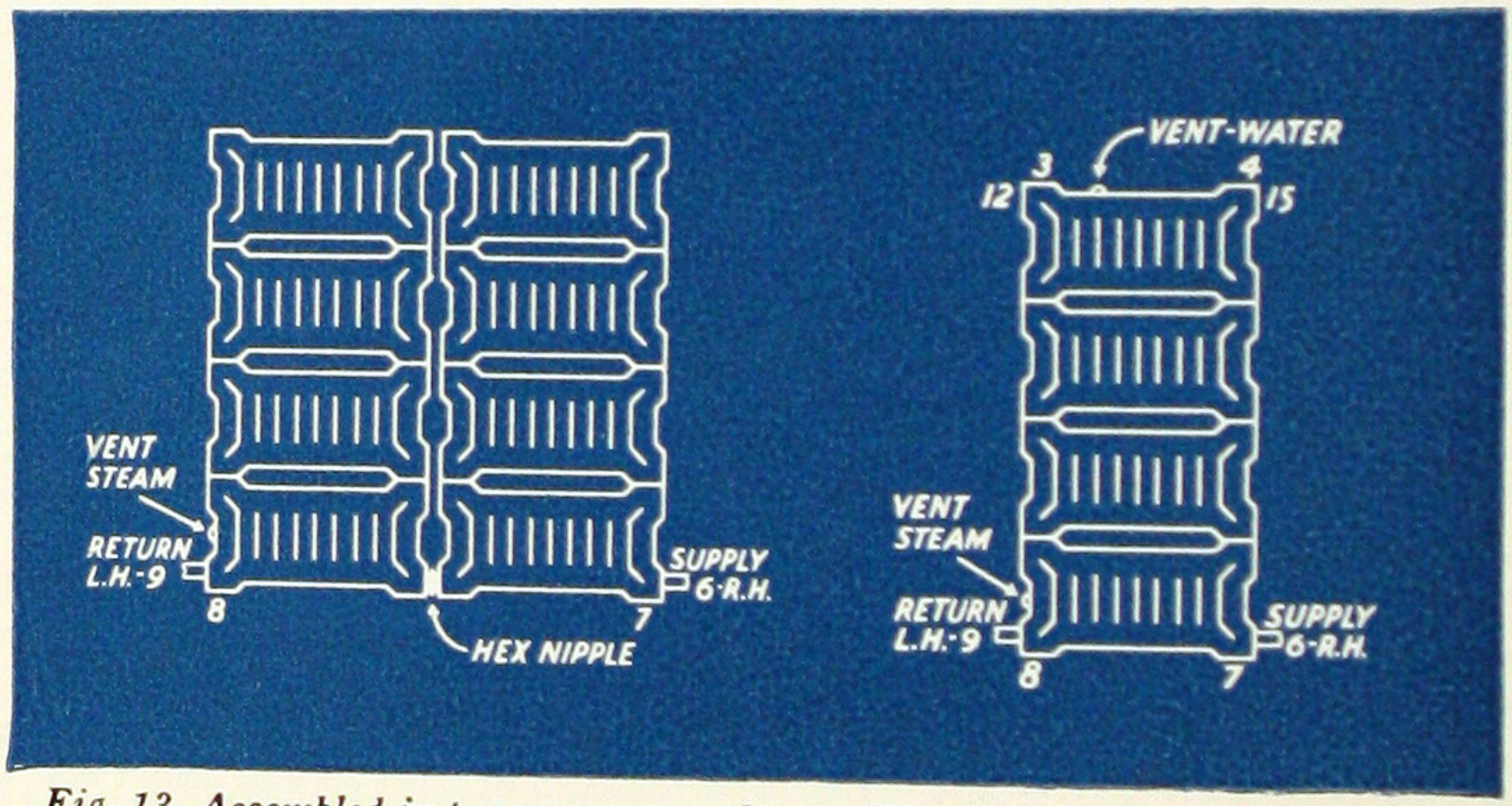



*Fig. 13. Assembled in two or more stacks. One and two pipe steam only. Bottom feed.*

*Fig. 9. Assembled in single stack. Water or one and two pipe steam.*

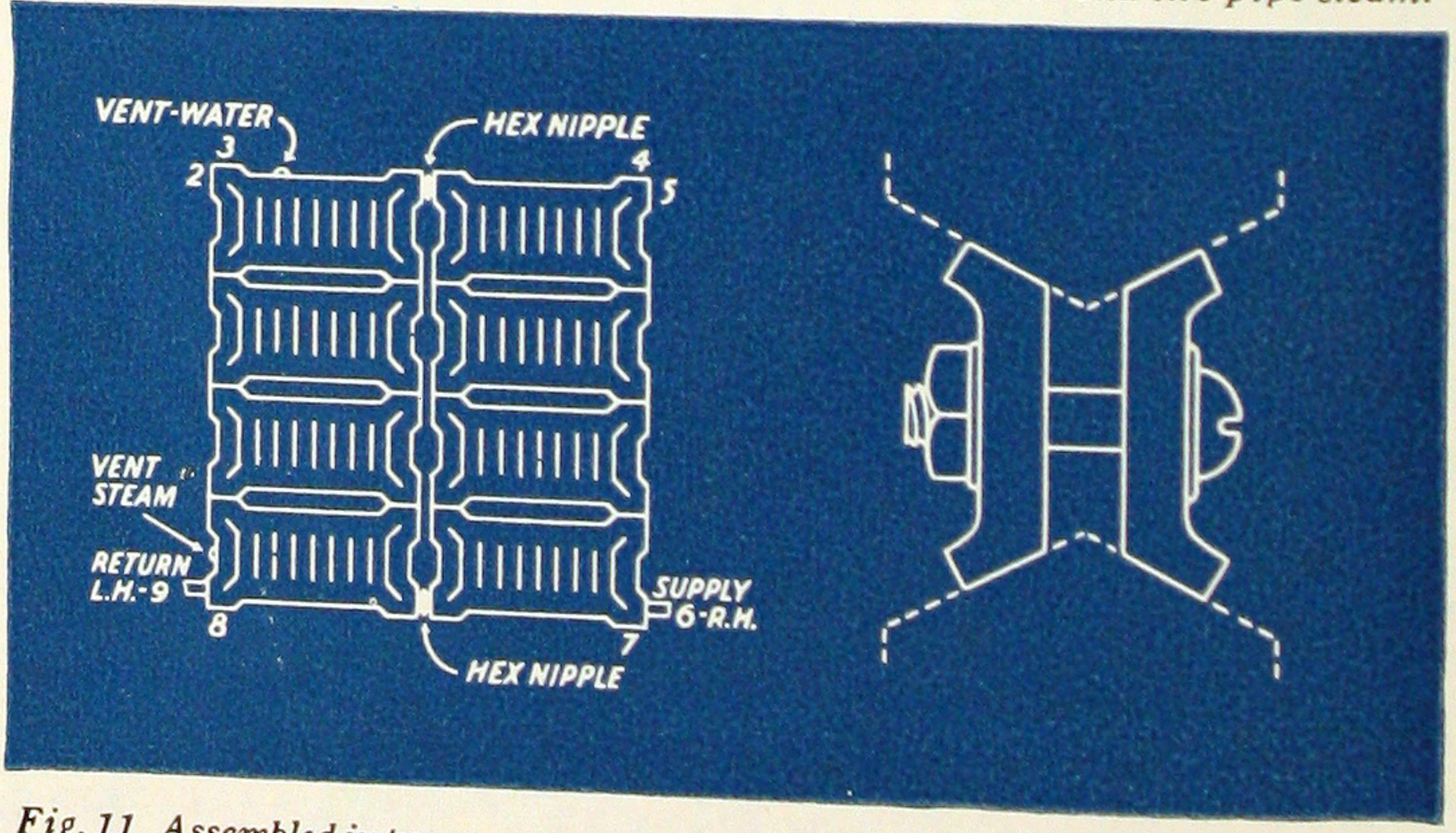



*Fig. 11. Assembled in two or more stacks. Water or steam.*

*Adjustable Spacing Saddle. Furnished between sections. See figures 17, 16, and 18 on pages 27 and 29.*

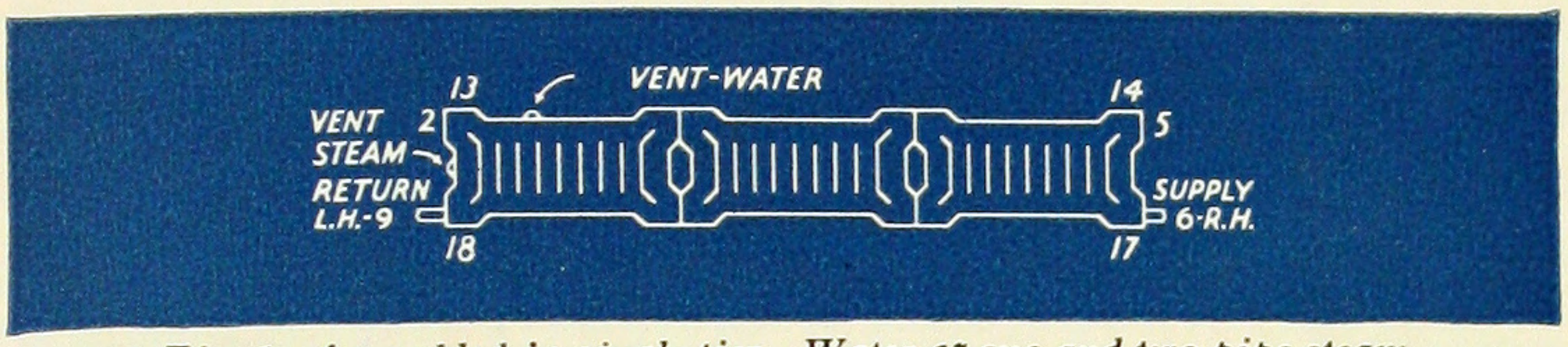



*Fig. 1. Assembled in single tier. Water or one and two pipe steam.*

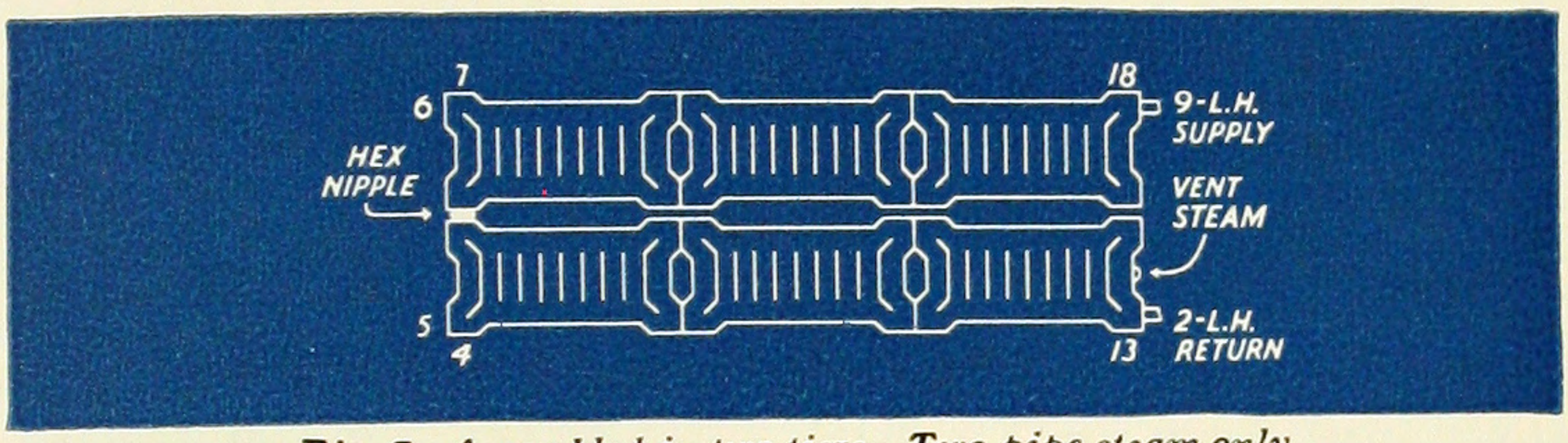



*Fig. 7. Assembled in two tiers. Two pipe steam only.*

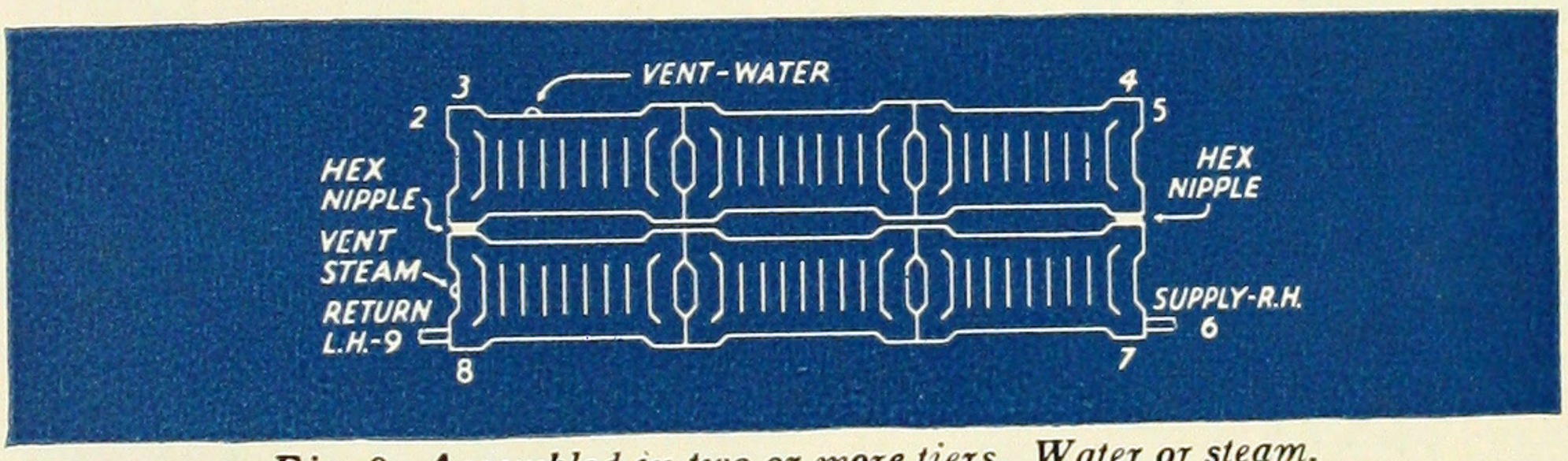



*Fig. 3. Assembled in two or more tiers. Water or steam.*

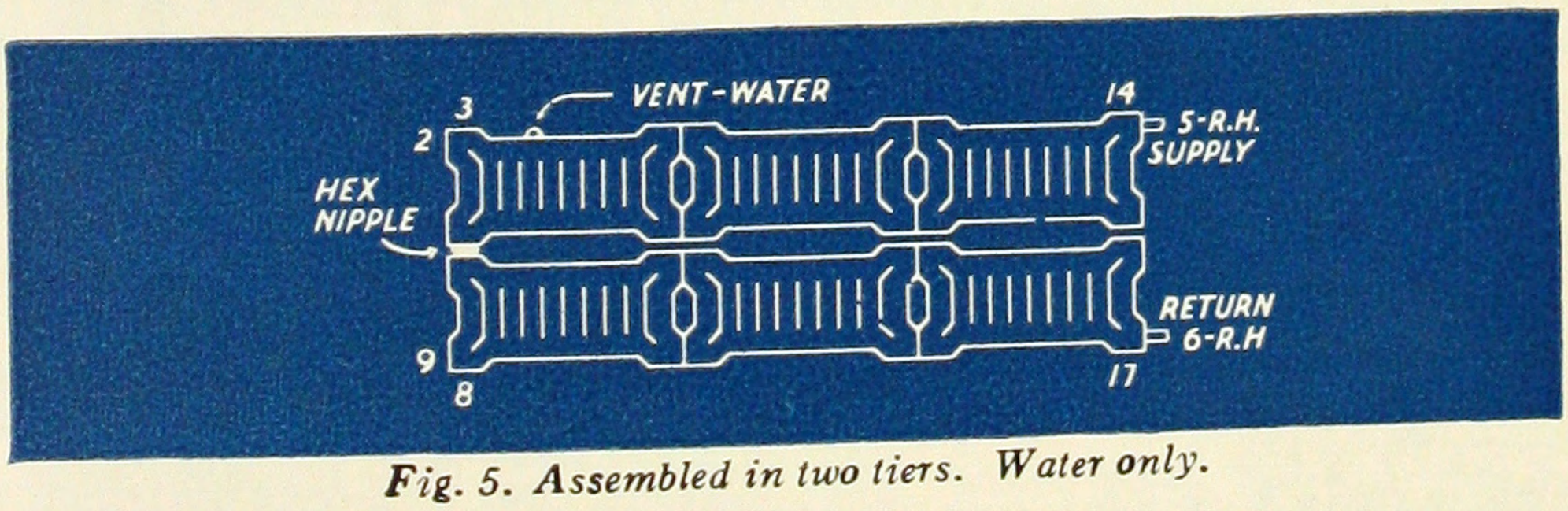



*Fig. 5. Assembled in two tiers. Water only.*

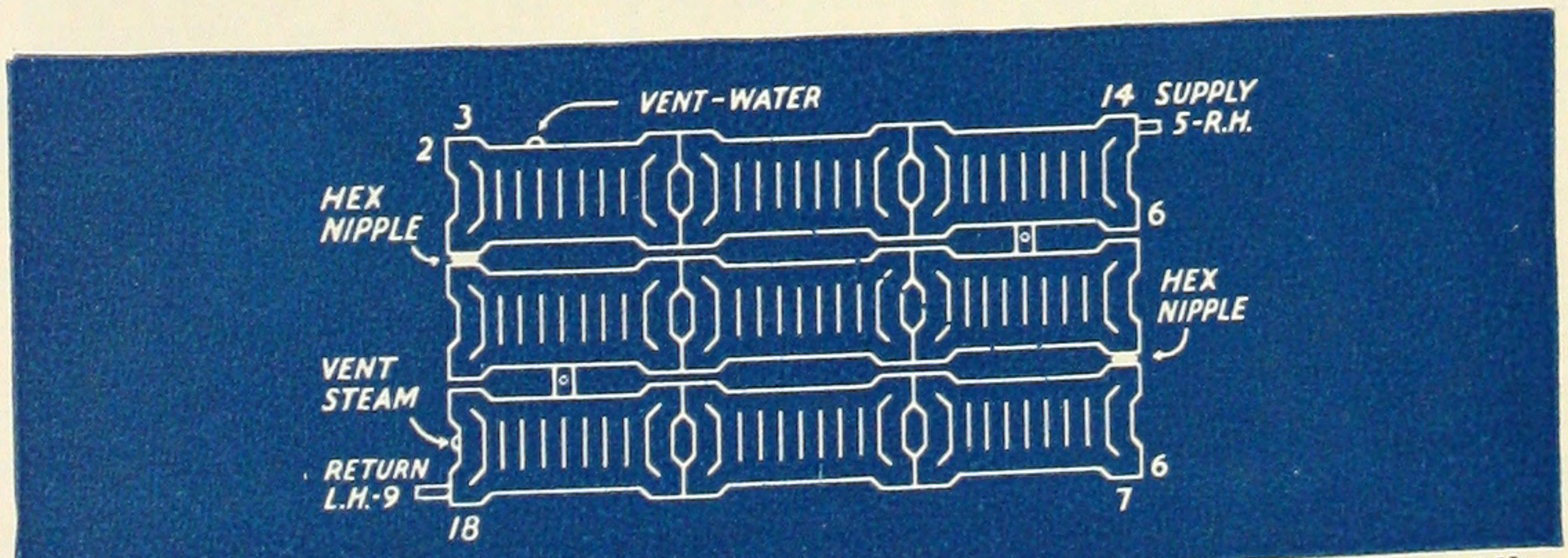
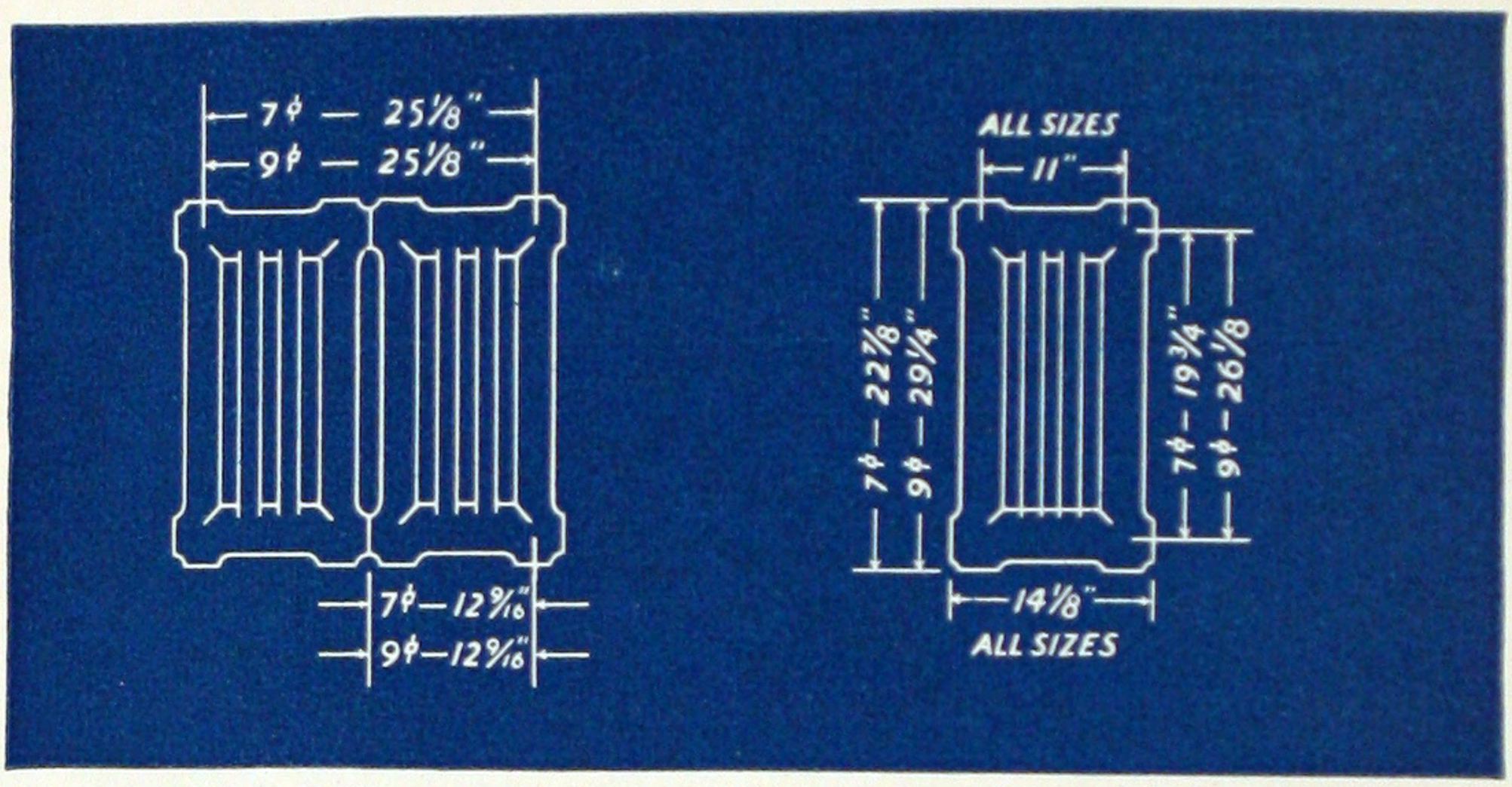



*Fig. 17. Assembled nine sections in three tiers. Using adjustable spacing saddle.*




*Above measurements apply to A or B styles.*

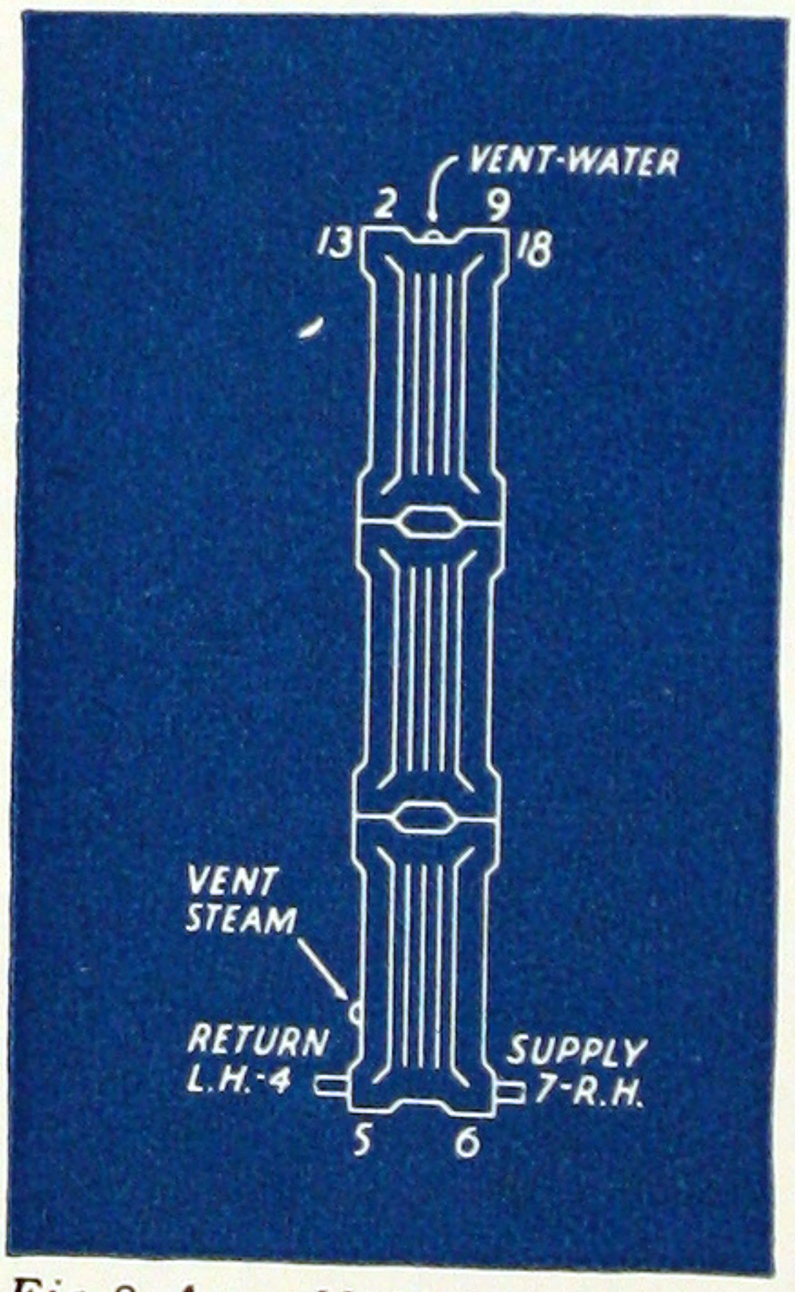



*Fig. 8. Assembled in single stack. Water or one and two pipe steam.*

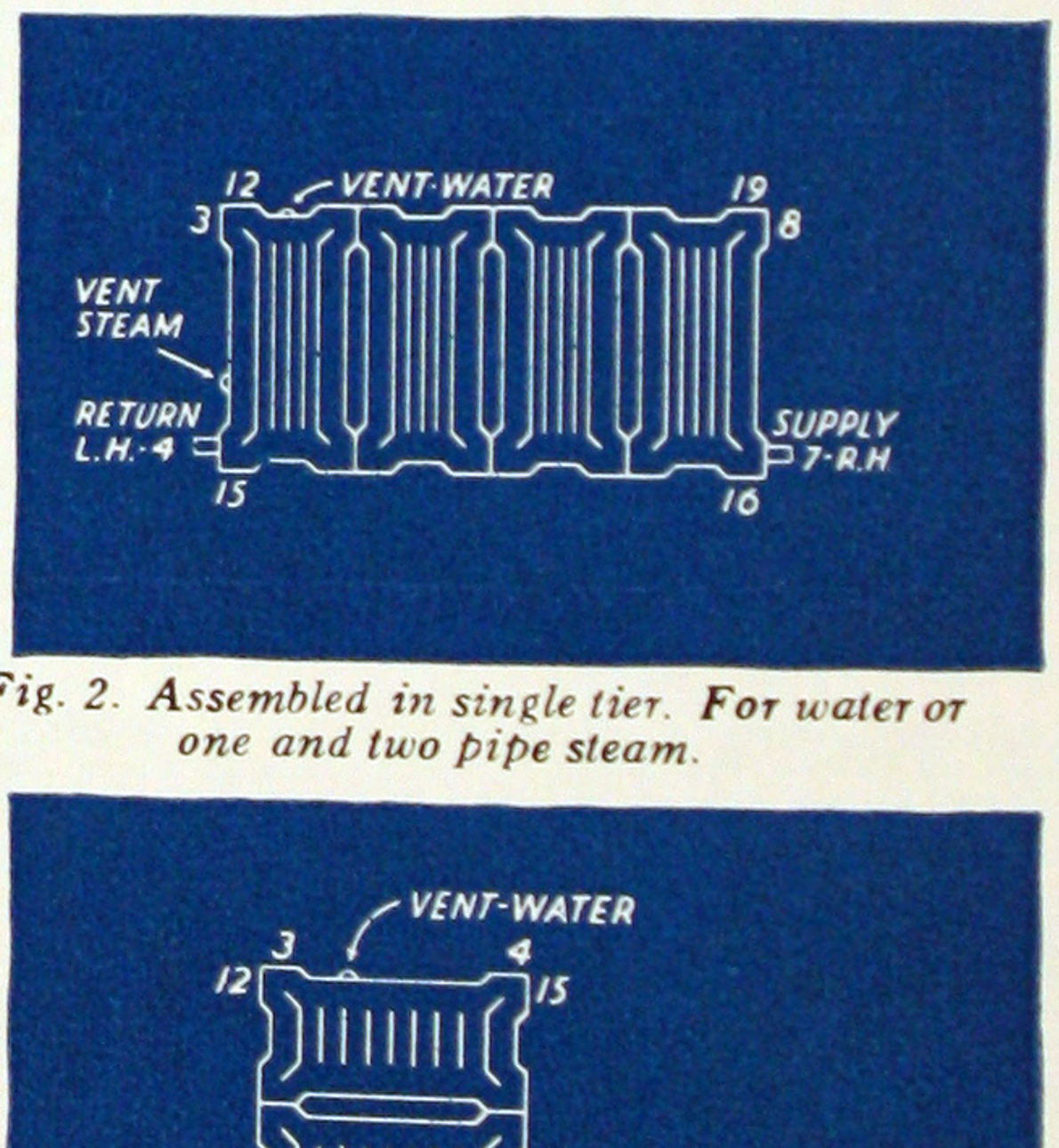



*Fig. 2. Assembled in single tier. For water or one and two pipe steam.*

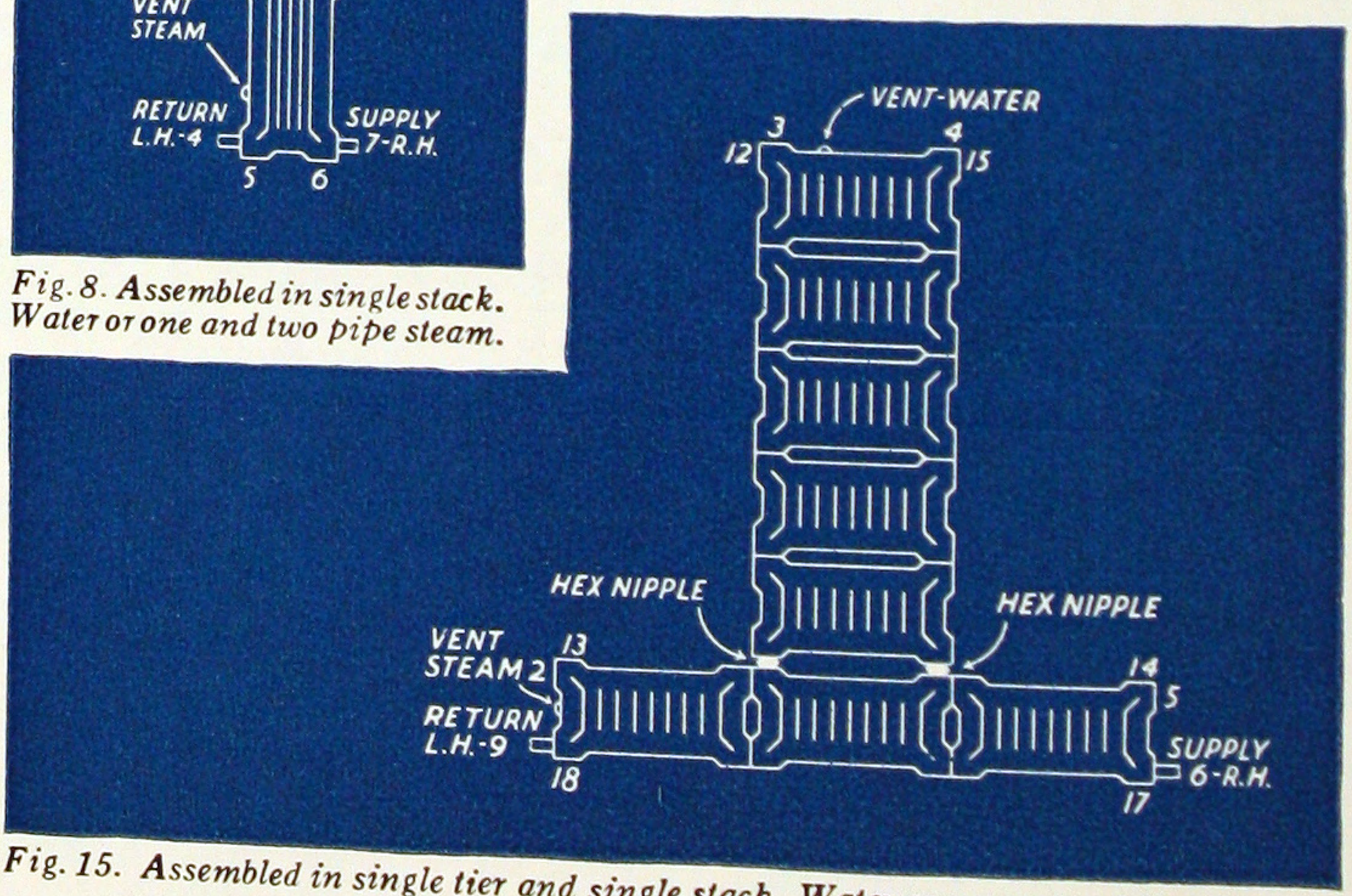



*Fig. 15. Assembled in single tier and single stack. Water or one or two pipe steam.*

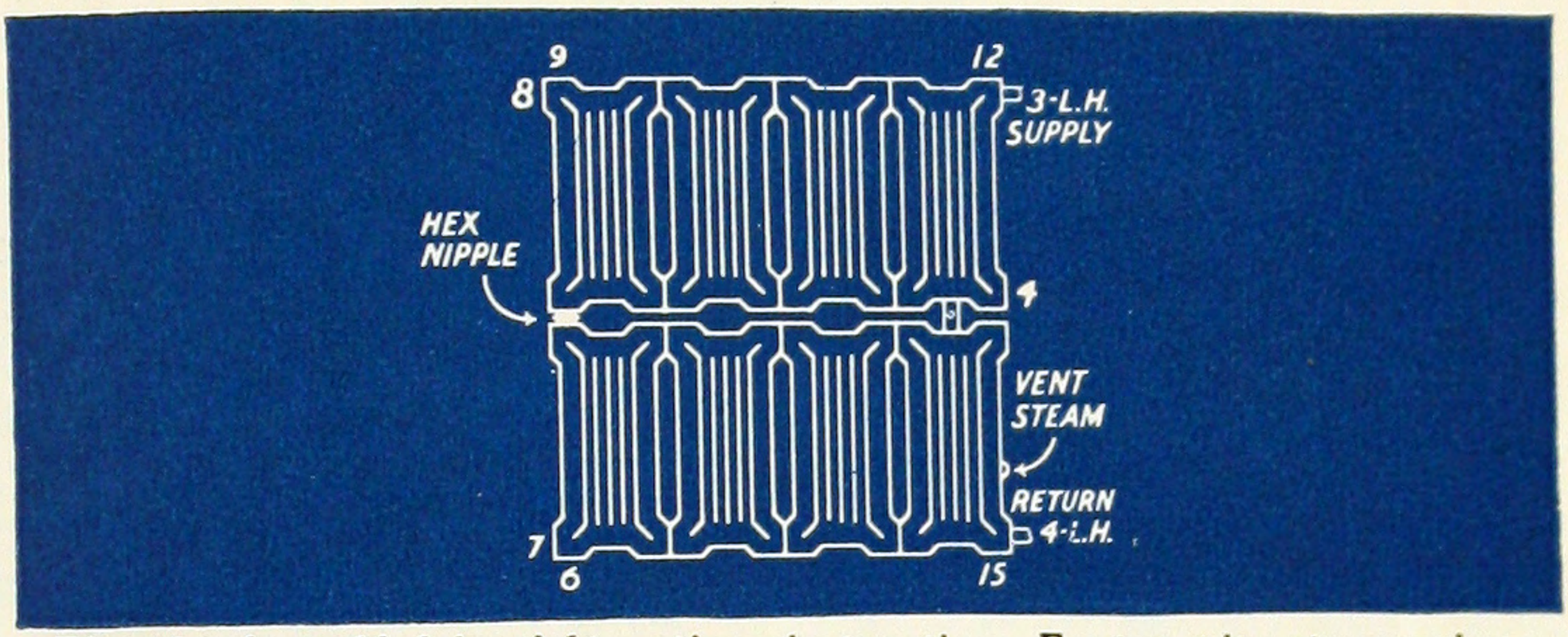



*Fig. 16. Assembled in eight sections in two tiers. For two pipe steam using adjustable spacing saddle.*

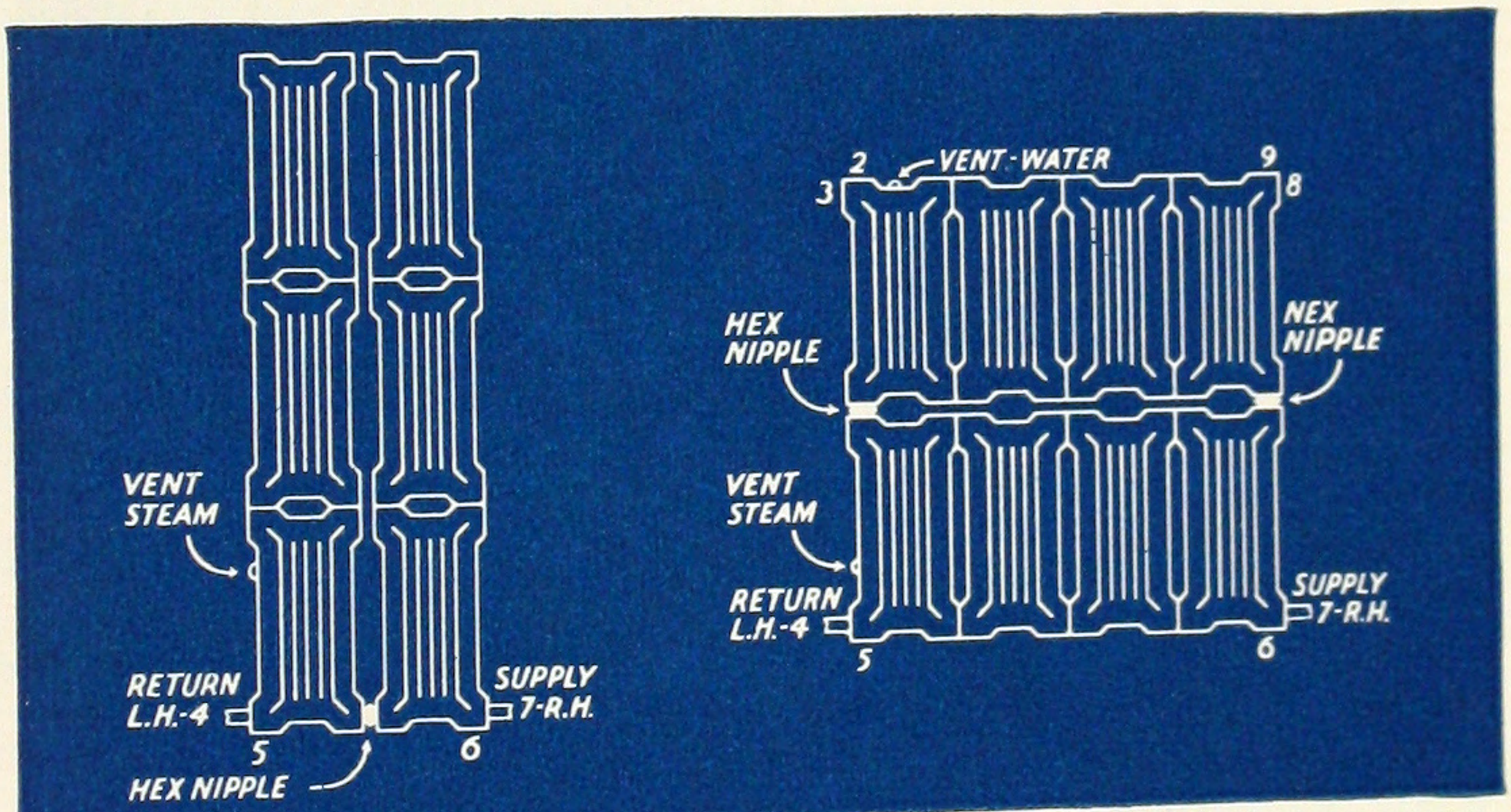



*Fig. 12. Assembled in two or more stacks. One and two pipe steam only. Bottom feed.*

*Fig. 6. Assembled in two or more tiers. Water or steam.*

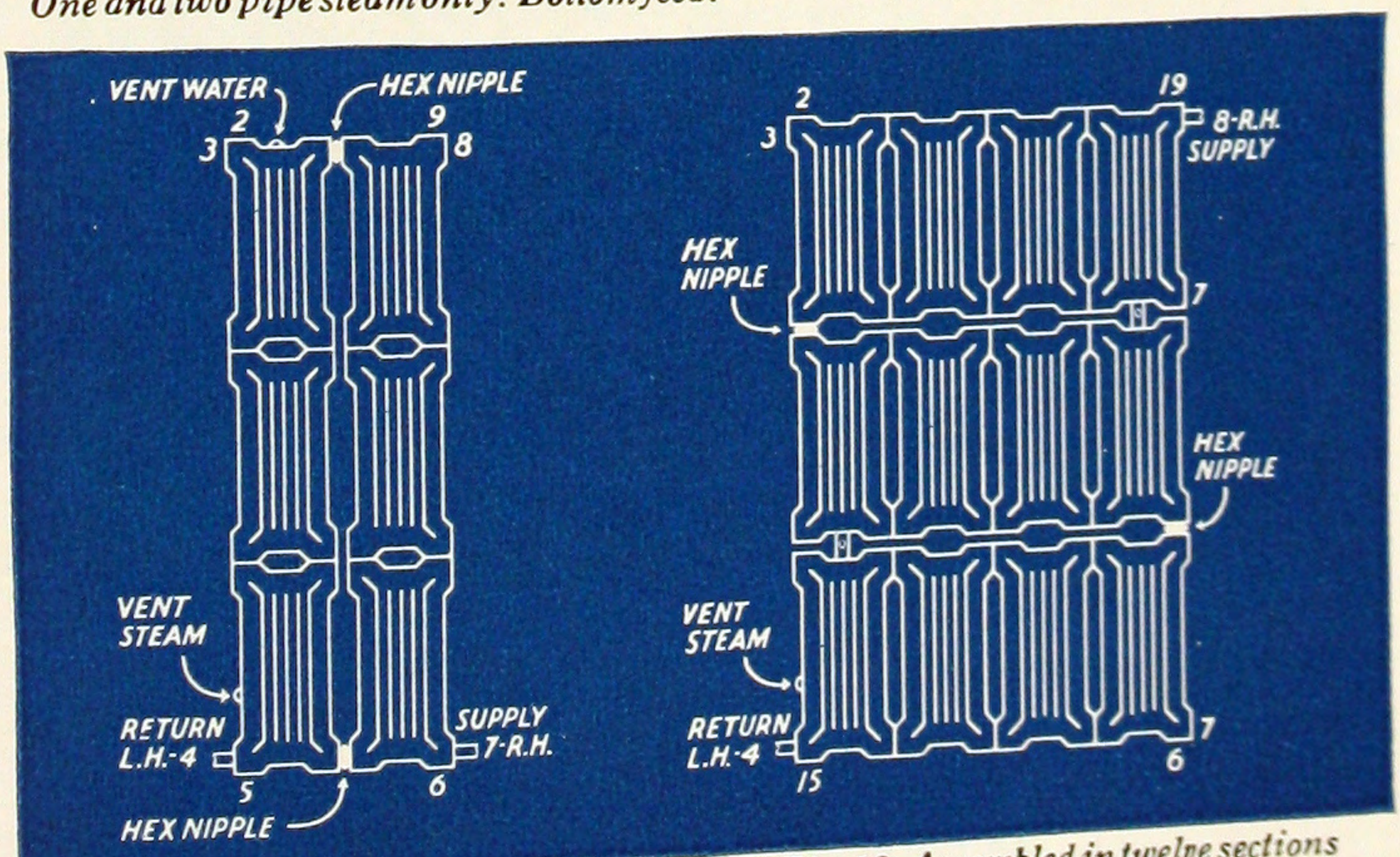
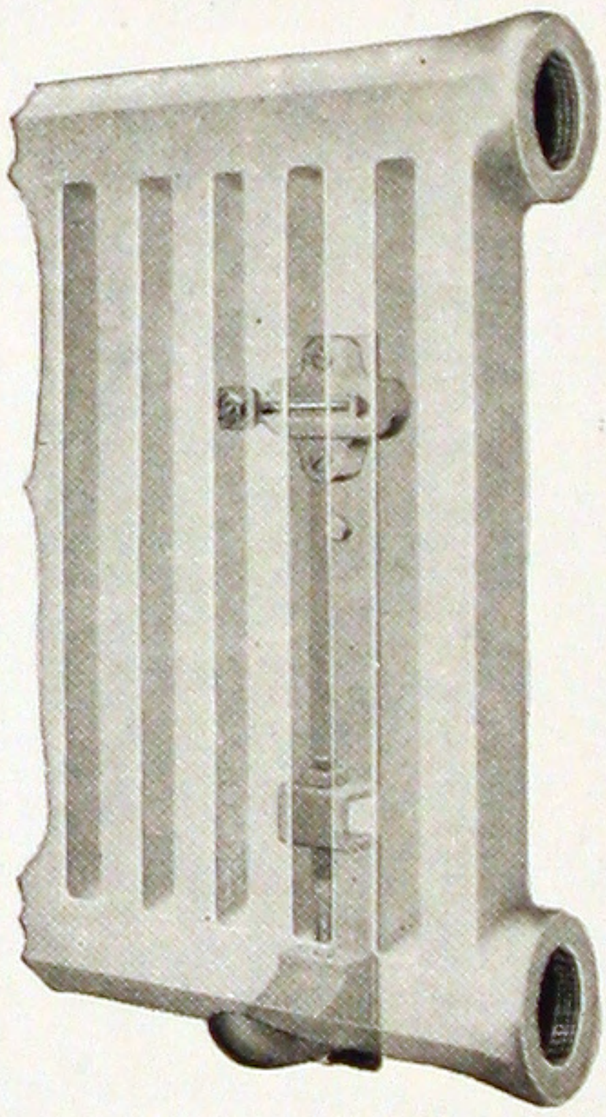



*Fig. 10. Assembled in two or more stacks. Water or steam.*

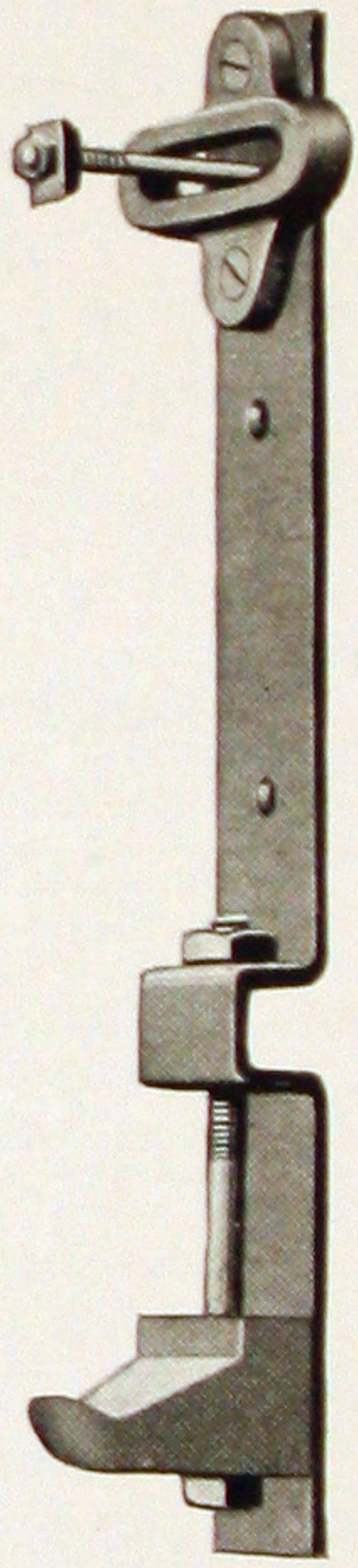
*Fig. 18. Assembled in twelve sections in three tiers. Using adjustable spacing saddle.*

# TRITON ADJUSTABLE WALL BRACKETS

"N"



"O"
Horizontal



"O"
Vertical

## ADJUSTABLE FOR PITCH AFTER RADIATOR IS ERECTED

Triton Adjustable Brackets are made to support wall radiators in large or small tiers or stacks in buildings of any character where wall radiation is installed.

They are strong and substantial, and hold radiators securely in place. They are adjusted after attachment to walls by a single expansion bolt.

Triton Adjustable Brackets are made in two styles.

"N" Brackets can be screwed to the wall to support any arrangement of wall radiation.

"O" Bracket, with bearing plate, is attached to wall with ½" Expansion Bolts, materially reducing the cost of construction and guaranteeing a safe and secure attachment.

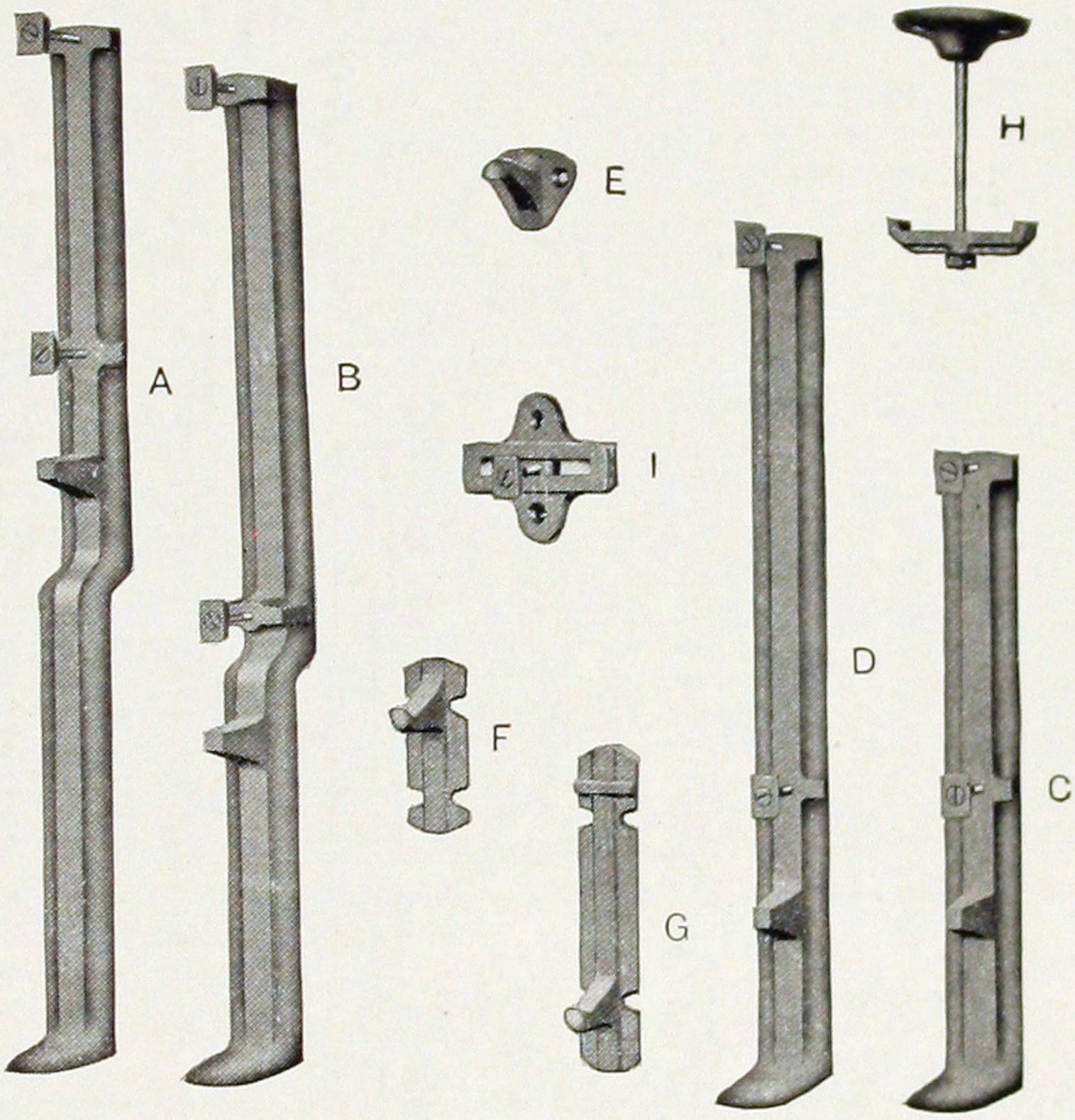
Vertical movement of the seat of "N" and "O" Bracket is 2", permitting adjustment for pitch after radiators are erected. The brackets set the outer face of the radiator 4 7/8" from the wall.

Screw sizes suitable for use on "N" Bracket:

Top Bracket—Size of hole, ¼"—Use No. 14 Wood Screw.
Bottom Bracket—Size of hole, 9/16"—Use ½" Lag Screw.
"N" Brackets mounted on steel plates.
Top Bracket, ⅜"—Flat Head Machine Screw to fasten to plate.
Bottom Hole, 9/16"—For ½" Lag Screw to wall.
Bottom Bracket, ⅜"—Machine Screw to fasten to plate.
Bottom Hole—For ½" Lag Screw to fasten to wall.

For additional measurements and chart showing number and location of brackets on assemblages, see pages 34-35.

# WALL RADIATOR BRACKETS




Brackets "B" to fit over a 9 ½-inch high baseboard for supporting wall radiators Nos. 7-B and 9-B.

## HEIGHT FROM FLOOR TO CENTER OF TAPPING

| | |
|---|---|
| No. B 5 ½ from floor to center | 5 ½" |
| No. B 7 ½ from floor to center | 7 ½" |
| No. B 9 ½ from floor to center | 9 ½" |

Brackets "D" are straight right angle brackets without offset for supporting Nos. 7-B and 9-B. Distance from floor to center of tapping, 5 ½ inches.

Brackets "A" to fit over baseboard for supporting Nos. 5A, 7A and 9A.

## HEIGHT FROM FLOOR TO CENTER OF TAPPING

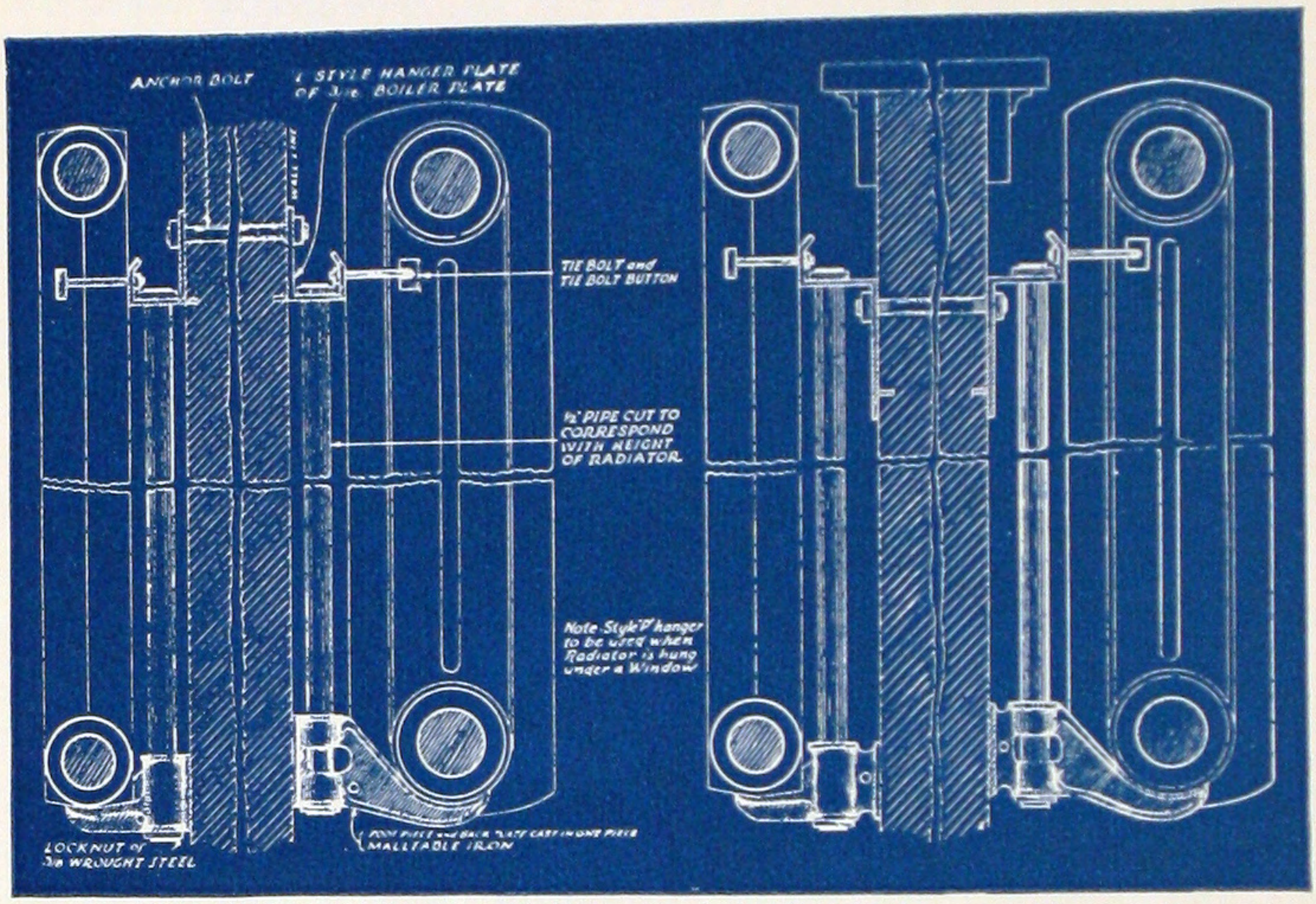
| | | |
|---|---|---|
| No. A 6 will fit over baseboard | 1 ½" | 6" |
| No. A 8 will fit over baseboard | 3 ½" | 8" |
| No. A 10 will fit over baseboard | 5 ½" | 10" |
| No. A 12 will fit over baseboard | 7 ½" | 12" |
| No. A 14 will fit over baseboard | 9 ½" | 14" |
| No. A 16 will fit over baseboard | 11 ½" | 16" |

Brackets "C" are straight right angle brackets without offset for supporting Nos. 5A, 7A and 9A. Distance from floor to center of tapping 5 ½ inches.

Brackets "F," "G," "E," and "I" are screwed to wall, baseboard and wainscoting. "F" and "G" are bottom supports for all sizes; "E" and "I" top guides to hold radiator in place should always be used with "F" and "G" brackets. "F" and "G" brackets are slotted for four wood screws not furnished by us, and "E" and "I" are for two wood screws.

Ceiling brackets "H" for supporting radiator from ceilings, made of cast plate 3 ⅜ inches in diameter to be screwed to ceiling joist by four screws. Bolt furnished gives a distance of from 3 ½ to 5 inches from bottom of radiator to ceiling. Other lengths on special order.

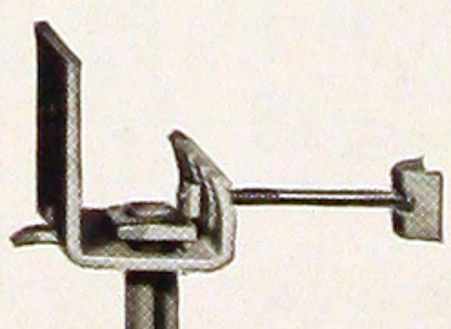
With brackets "A," "B," "D," and "C" we furnish two ¼ x 2 ¼ F. H. stove bolts with button, and with bracket "I" one 2 ¼ stove bolt with button.




*L. Style, Wall* *L. Style, 2 Col.* *P. Style, Wall* *P. Style, 2 Co*
*(for use under window sills)*

## A ONE BOLT, TWO ADJUSTMENT HANGER

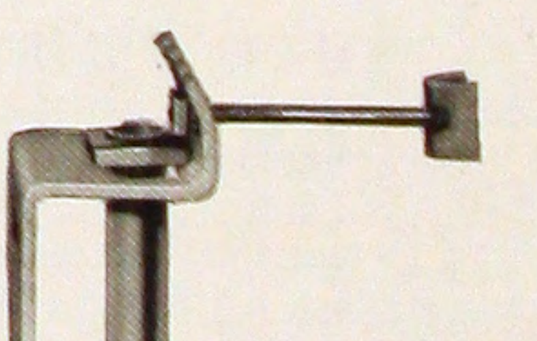
Secured to the wall by a single bolt, with 2½-inch horizontal adjustment and a vertical adjustment as great as the thread on the pipe, the Little Giant is installed with greatest ease. The top plate is strongly made of boiler steel with a 2½-inch slot in which the pipe may be adjusted. The front part of the plate has four notches with the prongs between bent back so that the tie bolt which secures the radiator cannot slip out, or turn when being tightened. The foot piece of malleable iron has strength to resist far more than any weight or strain that may be put on it. Any short pieces of ½-inch pipe may be used.




*L. Type*

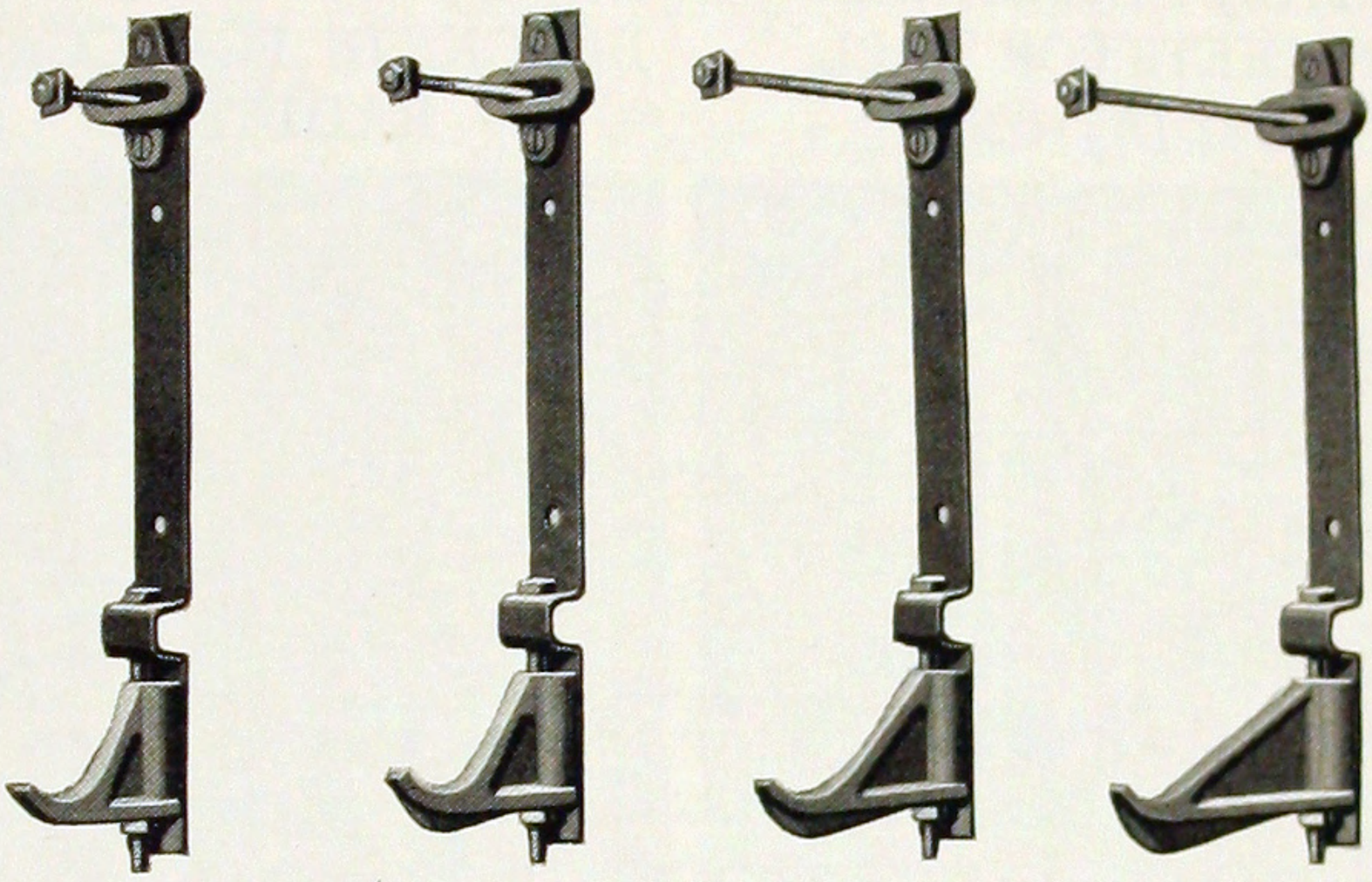
*L Type 1⅞ inches From Wall.*
*For Wall & 1-2-3 Column Radiators List..... $0.85*
*For 4 Column & D'bl Wall Radiators....List $1.35*

*P Type 2½ inches From Wall*
*For Wall & 1-2-3 Column Radiators List..... $1.15*
*For 4 Column & Db'l Wall Radiators....List $1.35*




*P. Type*

# COLUMN WALL RADIATOR BRACKETS

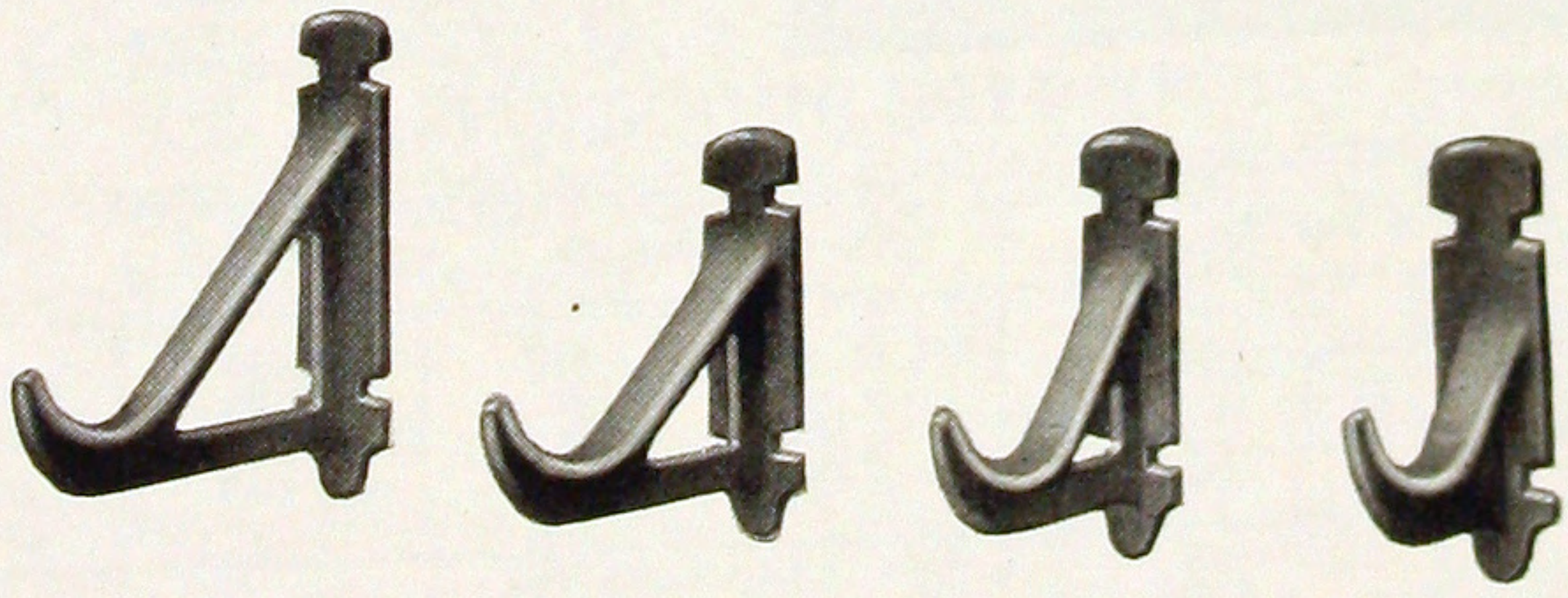


*Adjustable—Concealed. For Column Wall Radiators* made to support one, two, three, and four column radiators.

MEASUREMENTS
Wall to Center of Tappings

1 col. 4¼ in. 2 col. 5½ in. 3 col. 6½ in. 4 col. 8¼ in.

For additional measurements see page 34.

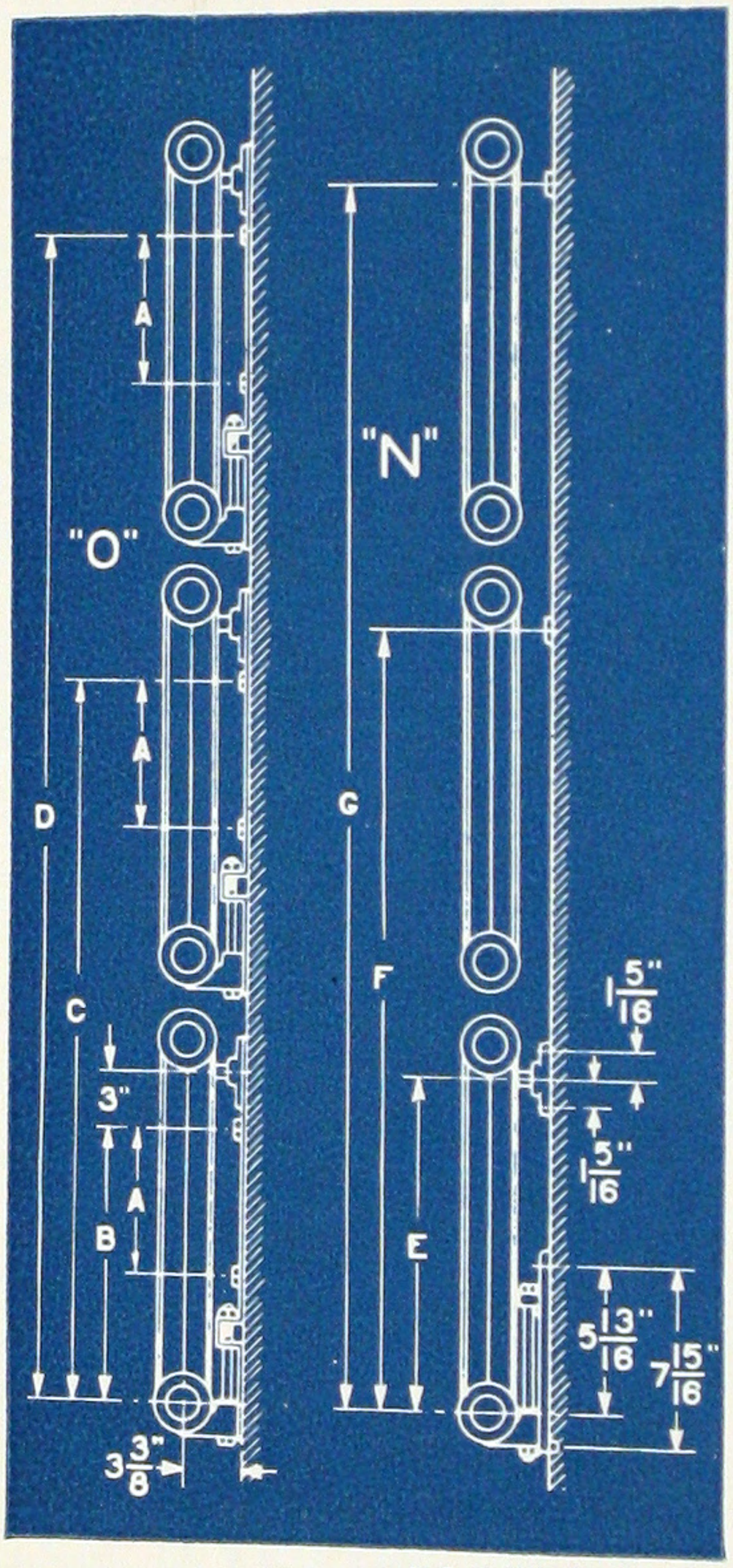


*Concealed—For Column Wall Radiators* made to support one, two, three, and four column radiators.

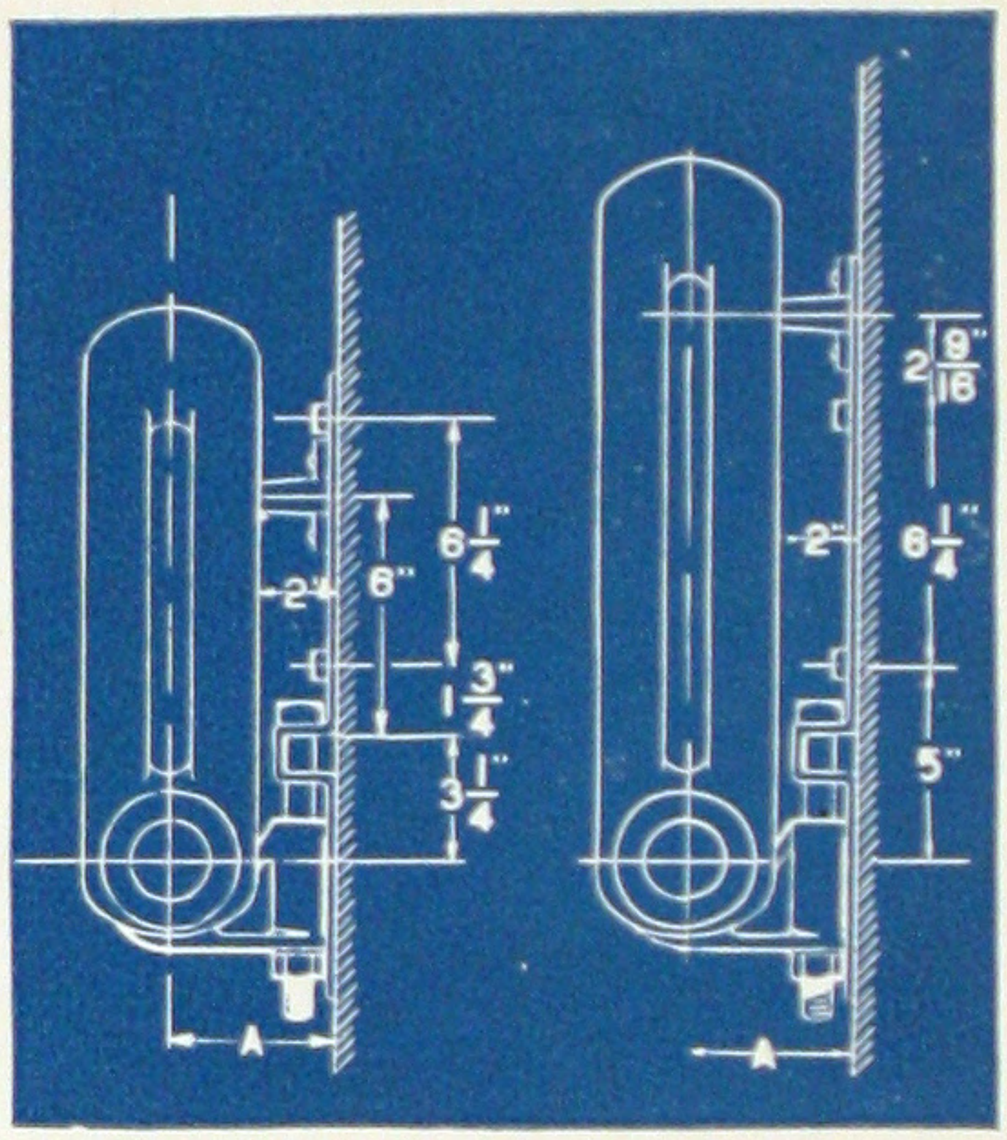
MEASUREMENTS
Wall to Center of Tappings

1 col. 3 in. 2 col. $4\frac{1}{16}$ in. 3 col. $5\frac{7}{32}$ in. 4 col. $6\frac{13}{16}$ in.

## TRITON ADJUSTABLE BRACKETS FOR WALL RADIATION




## ADJUSTABLE CONCEALED BRACKETS FOR COLUMN RADIATION




For 18", 20" and 22" Heights

For Heights Above 22"

### ALL HEIGHTS
(In cuts above)

1 Column . . . . . A equals 4 1/4"
2 Column . . . . . A equals 5 1/2"
3 Column . . . . . A equals 6 1/2"
4 Column . . . . . A equals 8 1/4"

Adjustable Concealed Brackets for column radiators can safely stand 350 lbs. each.

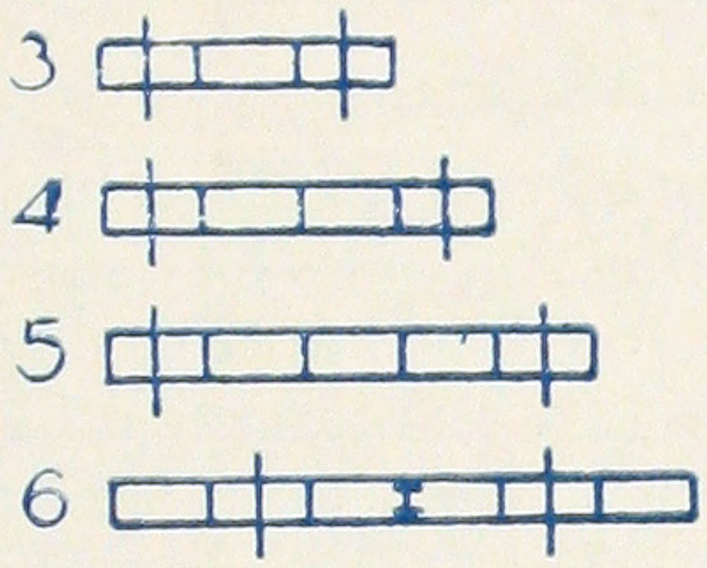
### "O" TYPE DIMENSIONS

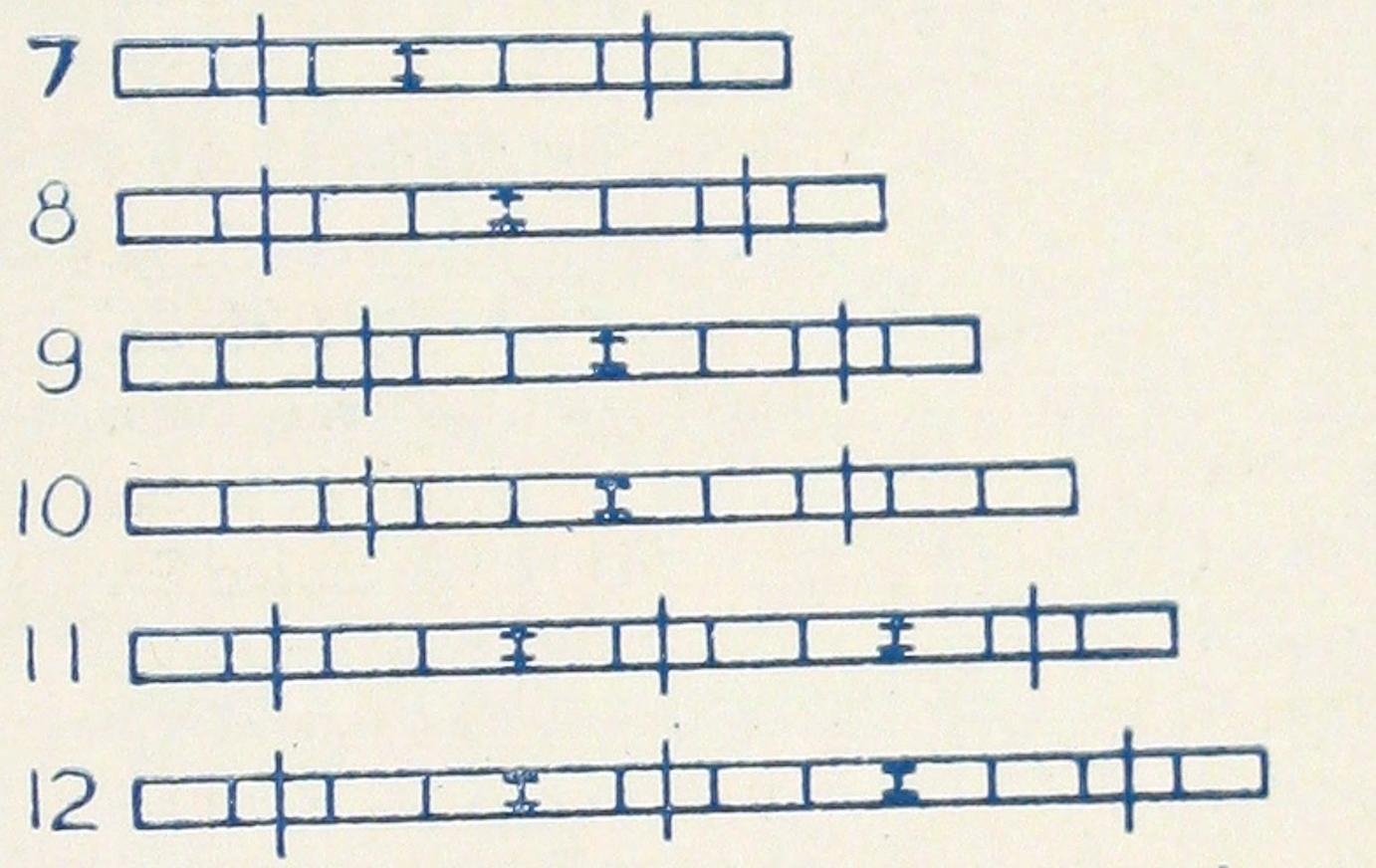
| Kind of Section | A | B | C | D |
|---|---|---|---|---|
| All Horizontal | 0 | 6 15/16" | 20 13/16" | 34 11/16" |
| 9′ Vertical | 8 1/16" | 15" | 44 1/4" | 73 1/2" |
| 7′ Vertical | 8 1/16" | 15" | 37 7/8" | 60 3/4" |

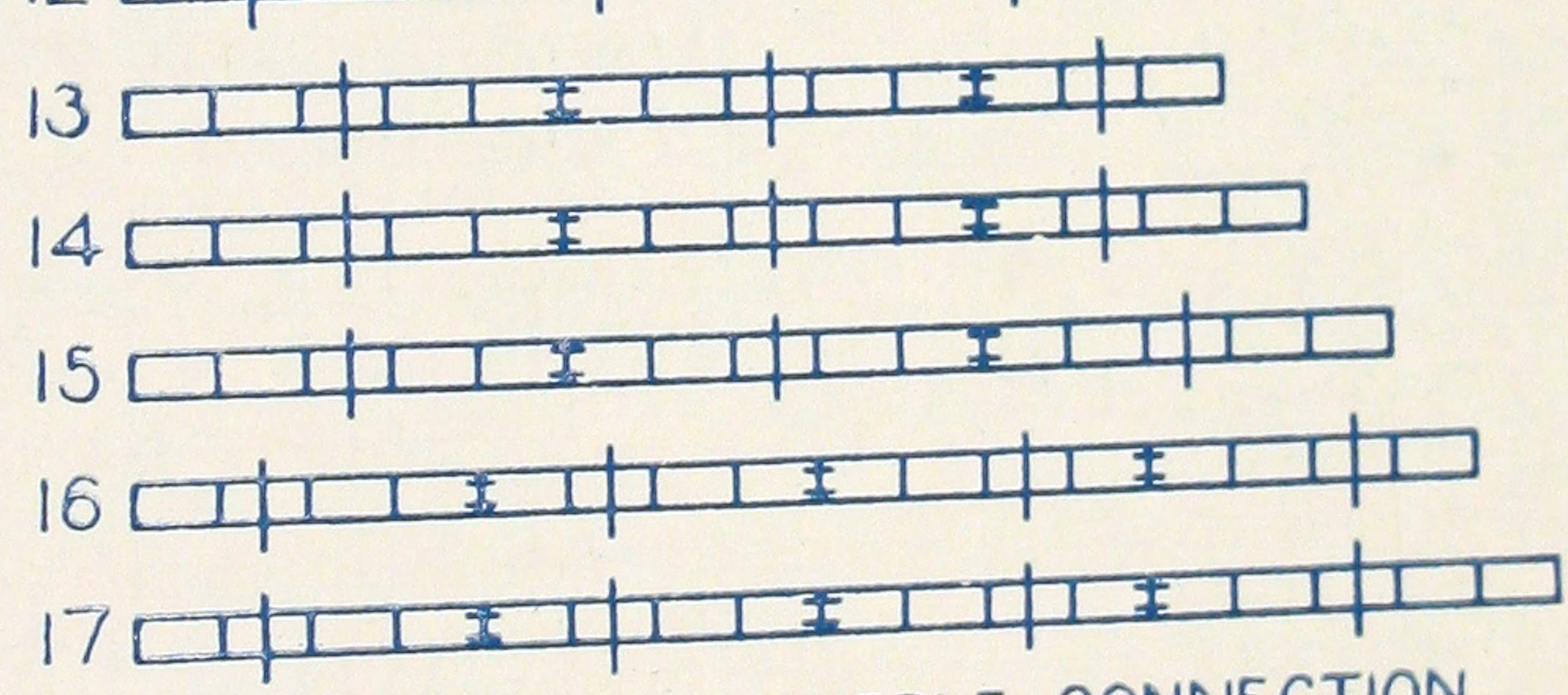
### "N" TYPE DIMENSIONS

| Kind of Section | E | F | G | |
|---|---|---|---|---|
| All Horizontal | 9 1/2" | 23 3/8" | 37 1/4" | |
| 9′ Vertical | 24 3/8" | 53 5/8" | 82 7/8" | |
| 7′ Vertical | 18" | 40 7/8" | 63 3/4" | |

Adjustments one inch either way from position shown.




‡ INDICATES HEX. NIPPLE CONNECTION.

CHART showing by vertical lines, how many and where to place Triton Adjustable Wall Brackets upon radiators of different assemblages (see pages 26 to 29.)

For longer assemblage combine the above figures as follows:

18.....10+8
19.....10+9
20.....10+10
21.....12+9
22.....12+10
23.....10+13
24.....15+9
25.....15+10
26.....12+14
27.....12+15
28.....15+13
29.....15+14
30.....15+15

# UNITED STATES RADIATOR CORPORATION

General Offices, Detroit, Michigan

## BRANCH AND SALES OFFICES

| | |
|---|---|
| *Boston | 136 Federal St. |
| *Portland, Me. | 2 Martyr St. |
| *Springfield, Mass. | North Main St. |
| *Providence | Allen's Ave., Foot of Oxford St. |
| *Troy | Center St., Green Island, N. Y. |
| *New Haven | New St. and Railroad Ave. |
| New York | 301 Architects Bldg. |
| *Brooklyn | 65 Forty-fifth St. |
| *Harrison, N. J. | Davis and Central Aves. |
| *Philadelphia | 220 South 16th St. |
| *Baltimore | 1147 Wicomico St. |
| Buffalo | 303 Crosby Bldg. |
| *Rochester, N. Y. | 64 Chester St. |
| Pittsburgh | 1008 Union Bank Bldg. |
| *Cleveland | 523 Guarantee Title Bldg. |
| *Columbus | 174 West Naghton St. |
| *Cincinnati | 1212 Exeter St. |
| Detroit | 517 Dime Savings Bank Bldg. |
| *Chicago | 500 North Dearborn St. |
| *Milwaukee | 168 Corcoran Ave. |
| *Indianapolis | 908 North Senate Ave. |
| *Louisville | 1631 West High St. |
| *Minnesota | 688 Hampden Ave., St. Paul |
| *St. Louis | 4004 Duncan Ave. |
| *Kansas City | 1405 West Eleventh St. |
| *Des Moines | 400 Southwest Ninth St. |
| *Omaha | 1017 North 21st St. |
| *Denver | 2439 Blake St. |
| *Seattle | 1248 First Ave., South |
| *Portland, Ore. | 16th, North and Thurman Sts. |
| *San Francisco | 640 Second St. |

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.—Detroit, Mich.—Dunkirk, N. Y.—Edwardsville, Ill.—Geneva, N. Y.—West Newton, Pa.

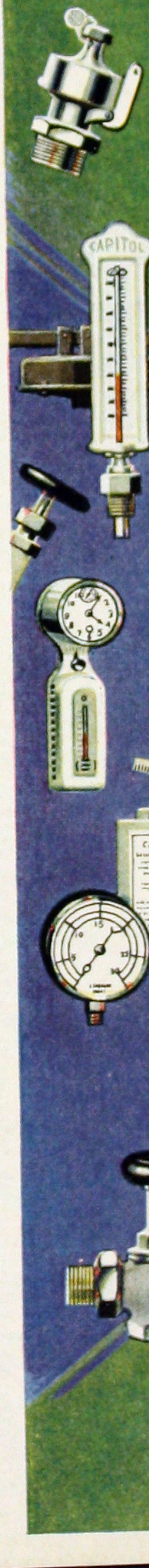
CHARLES DANIEL FREY, ADVERTISING, INC., CHICAGO

# Capitol

## *dependable*

## heating

## specialties




*United States*
*Radiator Corporation*
*Detroit, Michigan*

# Tested Heating Specialties Promptly Supplied

A HEATING system is often no better than its weakest part. Realizing this, Capitol engineers have selected the specialties listed in this catalogue with the greatest care.

Comparisons have been made, laboratory tests conducted, operation studied in actual service, and only after a specialty has definitely proved its leadership in its class can it take its place in the Capitol line.

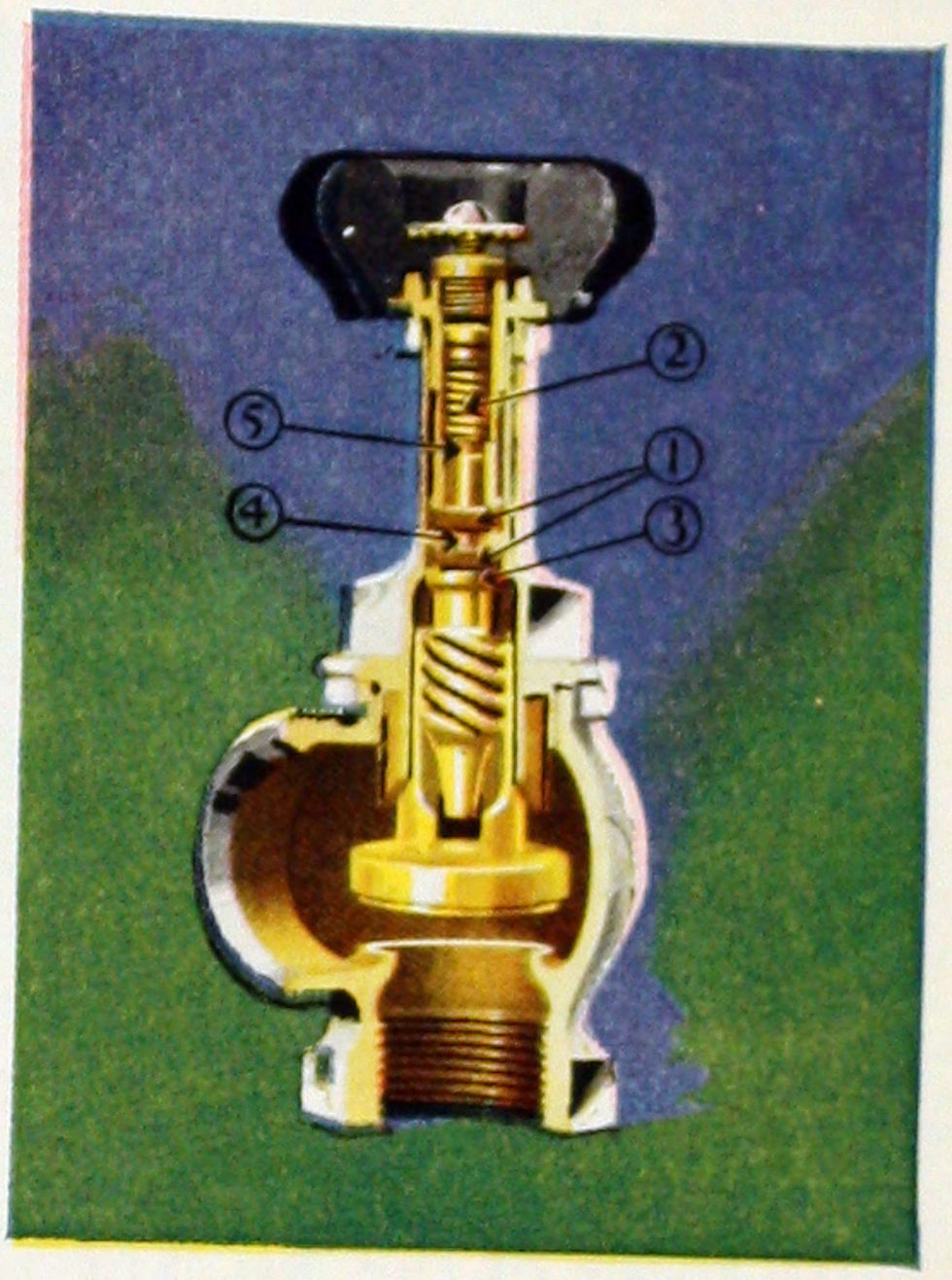
As a result, architects, engineers, and contractors have come to rely with complete confidence on any specialty the United States Radiator Corporation recommends.

They find an added advantage in the prompt service rendered from the twenty-eight assembly plants where stocks are carried at strategic points throughout the country.

And they know the prices always represent full value for every dollar.

# INDEX

# TRITON PACKLESS RADIATOR VALVES




No. 512

***The No. 512 Triton Radiator Valve for steam or vacuum heating*** is not surpassed by any other valve of its type. A three-quarters turn of the handle fully opens it or closes and locks it closed. It is impervious to abuse and protected against tampering.

Leakage is permanently prevented by its packless construction. Any wear that may occur on specially constructed washers (1) is automatically compensated by upward pressure of spring (2) exerted by gland arrangement of stem (3) and bonnet (4). Downward pressure on upper washer is exerted by spring on internal shoulder of follower plate (5).

The stem is non-rising. The bonnet, carried to the under side of the follower plate, protects the working parts from any outside interference. At every point, long life and efficient operation is insured.

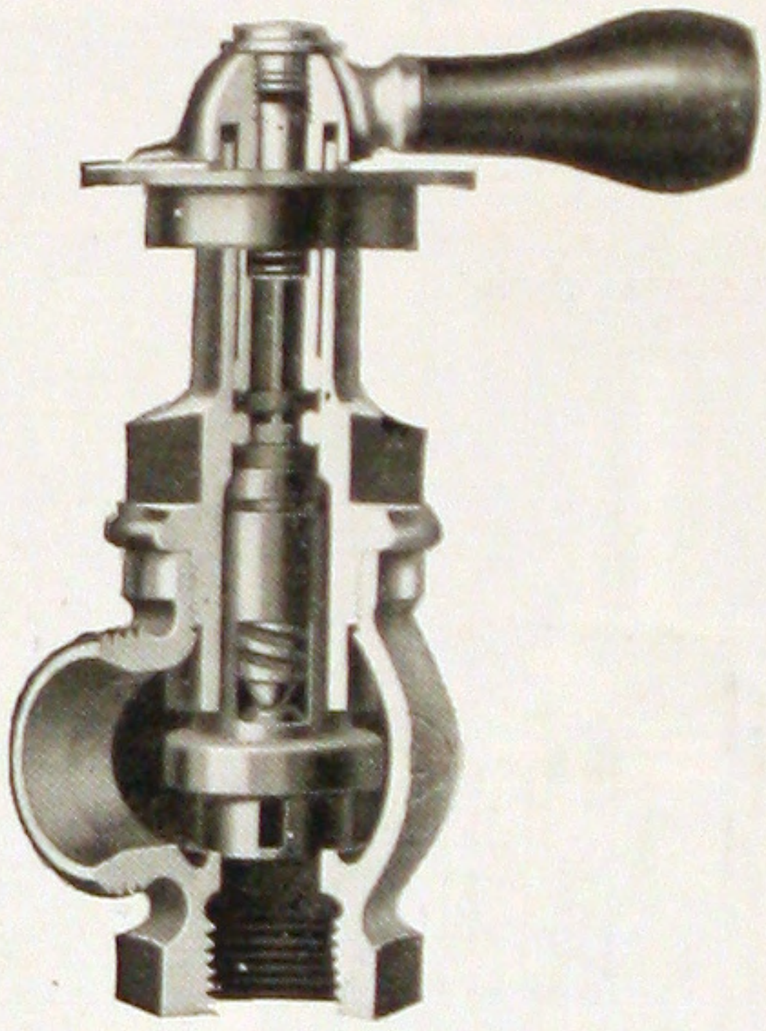
**List Prices**

| No. | Size, Inches..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 512 | Angle..... | $3.70 | $4.30 | $5.10 | $6.40 | $8.40 | $13.60 |

On special order can also be furnished with lever handle or lock and shield. Plated keys, list 50 cents each extra.

See page 9 for roughing-in measurements.

# TRITON GRADUATED PACKLESS RADIATOR VALVES



No. 522

***The Triton Graduated Packless Valve for vapor heating*** has features of long-lived efficient, leakless operation identical with those of the No. 512 Triton packless valve illustrated and described on page 1. It has in addition an indicator plate graduated into eight sections, and may be adjusted with minimum effort for a wide range of temperature variations.

Four different shells are furnished with each valve. Any one of them may be attached to the holder below the disc. There is a single slot shell for very small radiators, and shells with two, three, and four slots for the larger sizes.

The valve will remain partly open in any position it is set and will not vary until the handle is turned.

The lever handle is standard equipment. Wheel handles can be furnished if desired.

**List Prices**

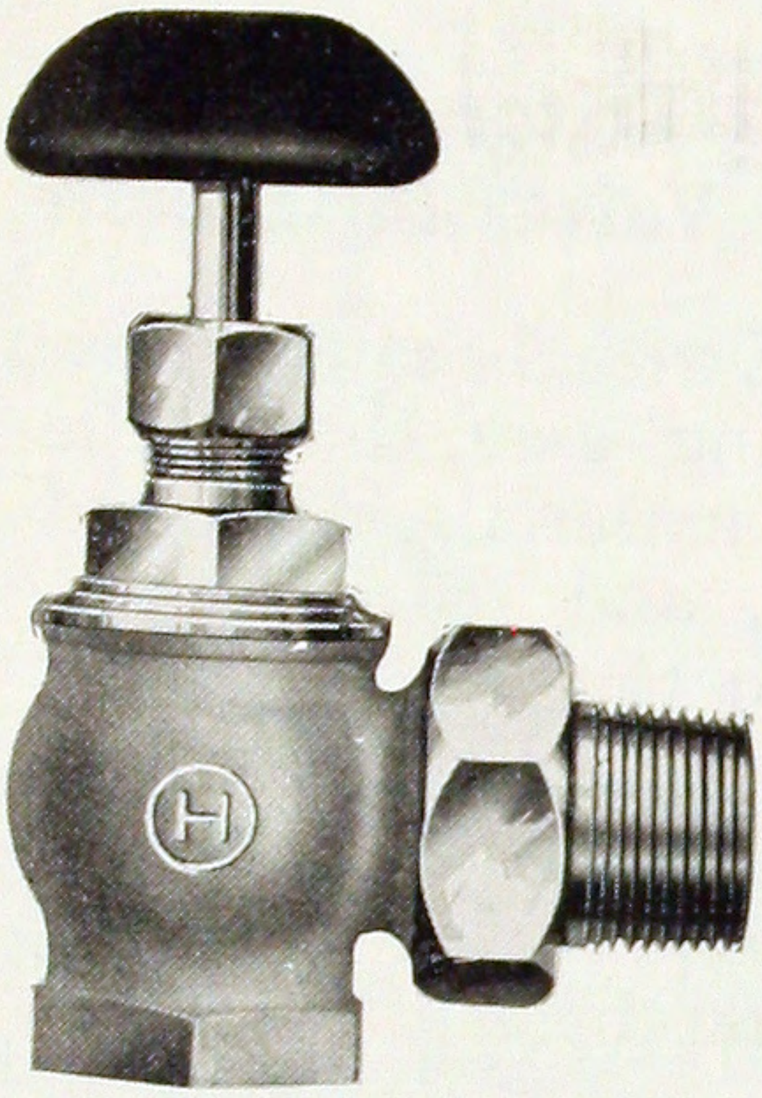
**With Union, Composition Disc, Rough Body and Polished Trimmings, Plated all over**

| No. | Size, Inches..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 522 | Angle Valve, complete with shells (per cut)... | $3.80 | $4.50 | $5.50 | $7.25 | $9.00 | $14.30 |
| 523 | Angle Valve, without shells..... | 3.65 | 4.30 | 5.25 | 7.00 | 8.65 | 13.90 |
| 622<br>722 | R or L Corner Valve, complete with shells..... | 4.10 | 4.90 | 6.00 | 7.90 | 9.85 | 15.65 |
| 623<br>723 | R or L Corner Valve, without shells..... | 3.95 | 4.70 | 5.75 | 7.65 | 9.50 | 15.25 |

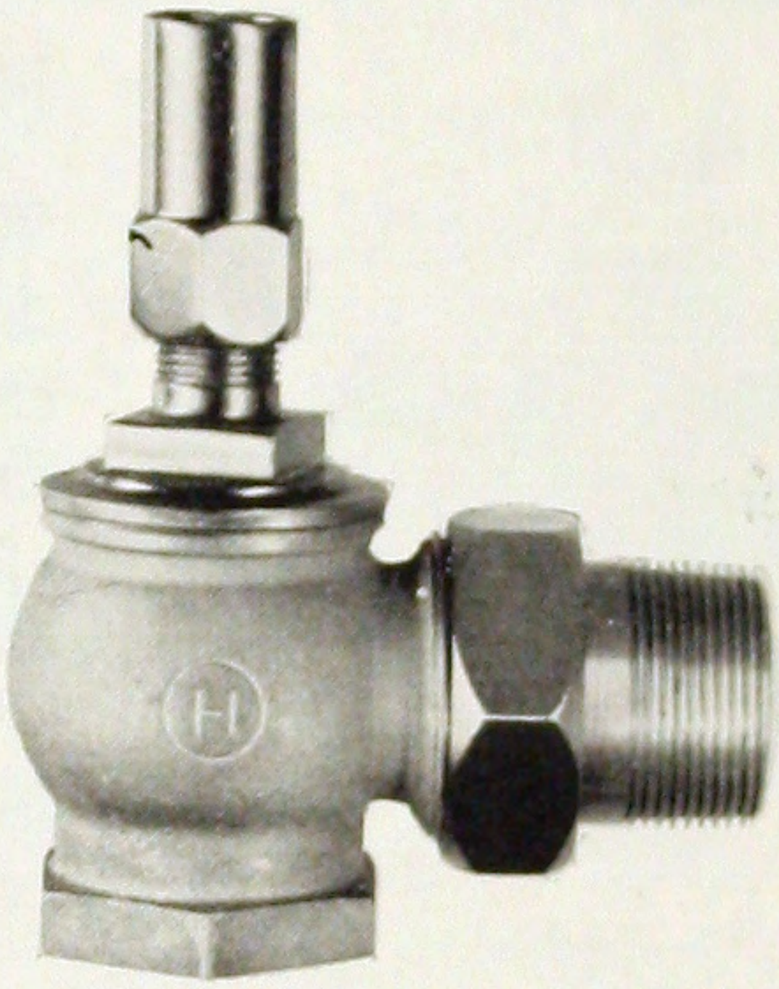
See page 9 for roughing-in measurements.

Unless otherwise specified, Graduated Packless Valves will be shipped with shells.

# TRITON STEAM RADIATOR VALVES



No. 112



No. 312

***Triton Steam Radiator Valves*** include every detail refinement in materials, design, construction, and inspection to make the finest valves of their kind.

Their advanced design offers minimum resistance to the free flow of steam. Parts subject to wear, the union nuts, tail pieces, body hexes, are made extra strong. The union joints are given particular attention and designed to "make up" readily.

Every part is precisely machined. Each is inspected individually before assembly. All completed valves are tested under pressure before shipping.

All valves are regularly supplied with a composition mushroom-type handle.

**With Union Composition Disc—Angle**

**List Prices**

| No. | Size, Inches..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 112 | Rough body and polished trimmings, plated all over | $3.70 | $4.30 | $5.10 | $6.40 | $8.40 | $13.60 |

**With Union, Composition Disc—Angle, Lock and Shield**

| No. | Size, Inches..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 312 | Rough body and polished trimmings, plated all over | $3.70 | $4.30 | $5.10 | $6.40 | $8.40 | $13.60 |

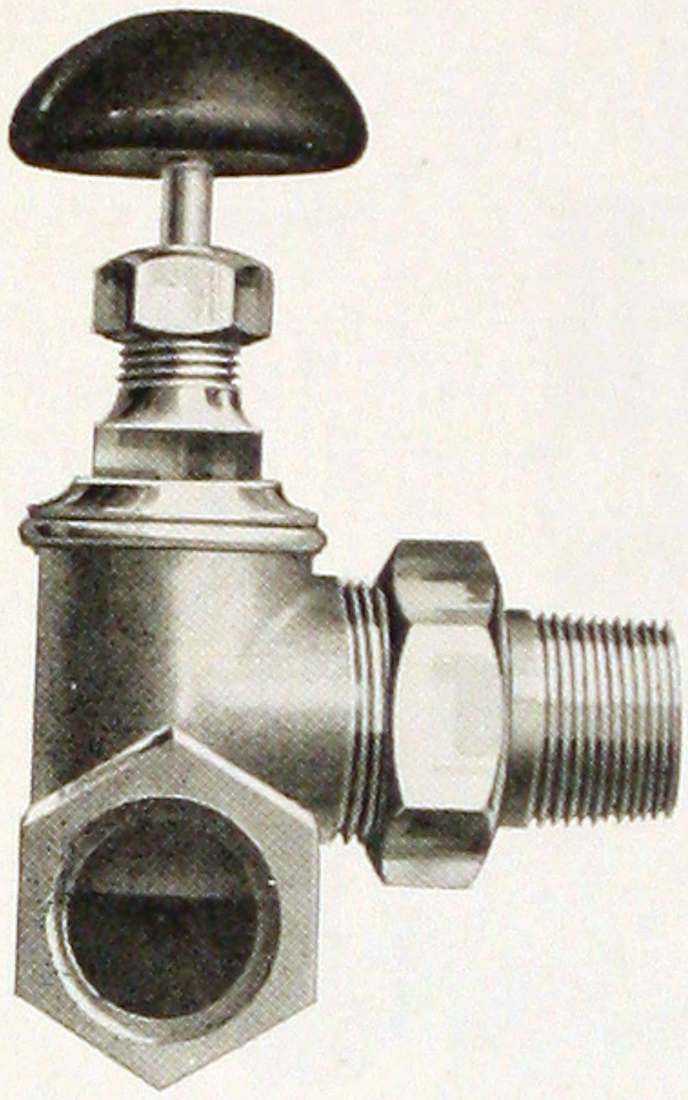
Plated keys, list, 50 cents each extra.

Any of our regular pattern Valves can be fitted with Lock Shield at a small additional charge.

When ordering Keys for Lock Shield Valves specify stock number and size of valves.

No. 112 and No. 312 Valves can be furnished with brass disc at slight additional expense.

See page 9 for roughing-in measurements.



No. 212 R

## No. 212 Triton Corner Radiator Valves for Steam

MADE with the same painstaking care, have the same fine materials, advanced principles, and searching inspection as the No. 112 valve shown on page 3.

The body areas are specially large. Supplied with union, composition disc.

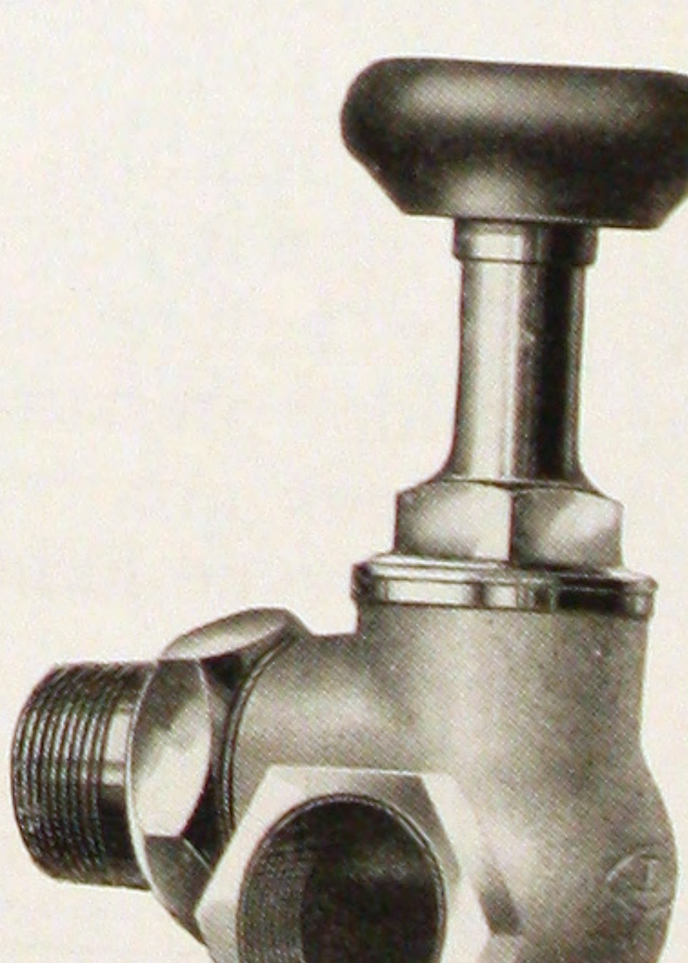
### List Prices

| No. | Rough body and polished trimmings, plated all over | Size, Inches | | | | | |
|---|---|---|---|---|---|---|---|
| | | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
| 212 | R. or L. Hand..... | $4.10 | $4.75 | $5.60 | $7.05 | $9.25 | $15.00 |

See page 9 for roughing-in measurements.

## No. 612 Triton Packless Corner Radiator Valves for Steam

PACKLESS, and wear-compensating, embodying the same principles as the No. 512 valve illustrated and described on page 1. Supplied with union, composition disc, rough body and polished trimmings, plated all over.



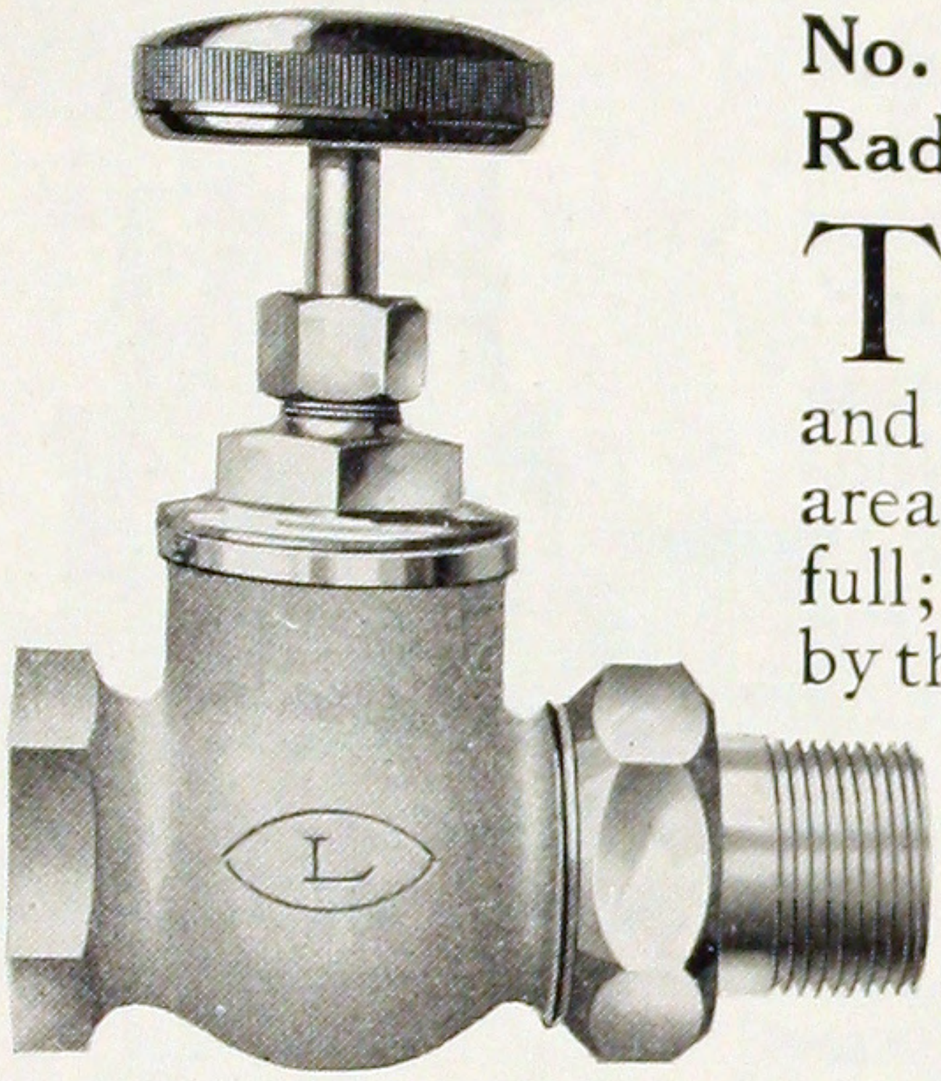
No. 612 L

### List Prices

| No. | Rough body and polished trimmings, plated all over | Size, Inches | | | | | |
|---|---|---|---|---|---|---|---|
| | | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
| 612 | R. or L. Hand..... | $4.10 | $4.75 | $5.60 | $7.05 | $9.25 | $15.00 |

Triton Packless Corner Valves are made in the graduated pattern with lever handle or lock and shield. See page 2 for list.

See page 9 for roughing-in measurements.




No. 812

## No. 812 Triton Brass Globe Radiator Valves for Steam

TRUE to the Triton standards of design, materials and workmanship. The body areas are large, the openings full; and a tight joint is assured by the liberal threaded space on the non-union end. Supplied with union, composition disc, rough body and polished trimmings, plated all over.

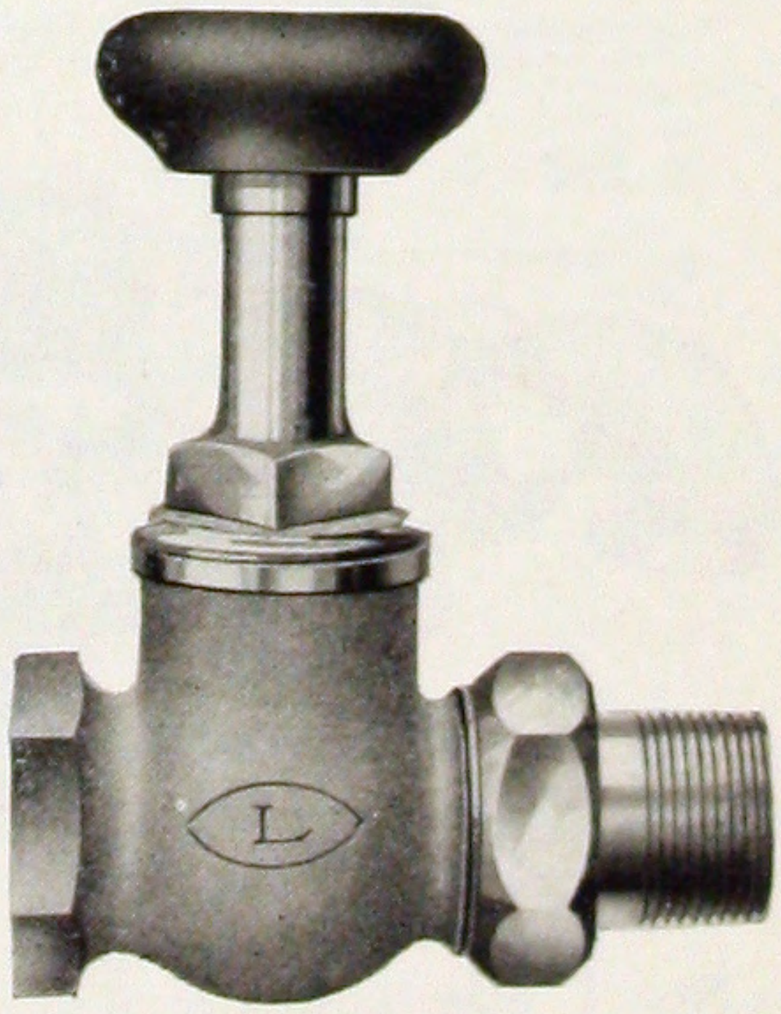
**List Prices**

| Size, Inches | ½ | ¾ | 1 | 1 ¼ | 1 ½ | 2 |
|---|---|---|---|---|---|---|
| No. 812 | $3.70 | $4.30 | $5.10 | $6.40 | $8.40 | $13.60 |

See page 9 for roughing-in measurements.

## Triton Packless Brass Globe Radiator Valves

EMBODIES packless, compensating, and quick opening features, identical with the No. 512 valve shown on page 1. The body areas are large, the openings full, and the threaded space on the non-union end is liberal. Supplied with union, composition disc, rough body and polished trimmings, plated all over.



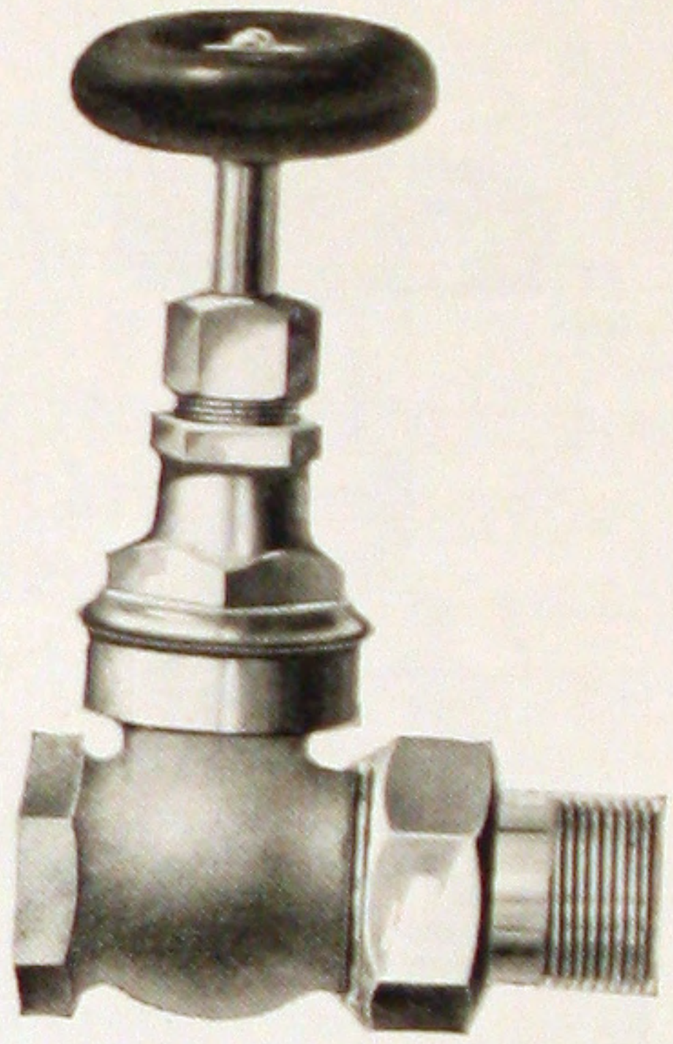

No. 712

**List Prices**

| Size, Inches | ½ | ¾ | 1 | 1 ¼ | 1 ½ | 2 |
|---|---|---|---|---|---|---|
| No. 712 | $3.70 | $4.30 | $5.10 | $6.40 | $8.40 | $13.60 |

See page 9 for roughing-in measurements.

THERE is no better valve where a straightway connection is required in either steam or hot water work. Equipped with double brass gate. Opens to the left. Non-rising stem. Supplied with union. The body is rough, the trimmings polished. Full nickel plated.



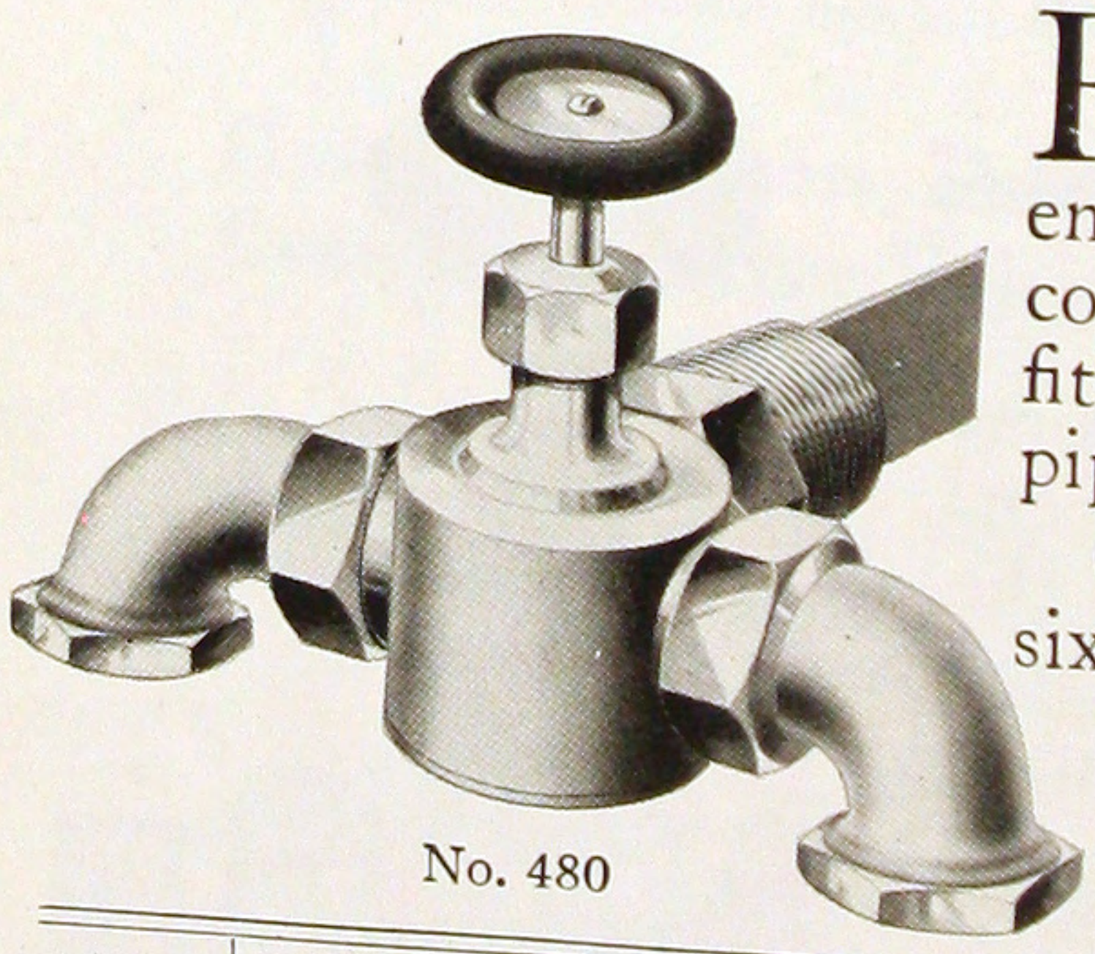
No. 256

**List Prices**

| Size, Inches | ½ | ¾ | 1 | 1 ¼ | 1 ½ | 2 |
|---|---|---|---|---|---|---|
| No. 256 | $3.65 | $4.25 | $5.20 | $6.60 | $9.00 | $12.80 |

On special order, can be furnished with lock and shield.
See page 9 for roughing-in measurements.

## Triton Unique Water Radiator Valves

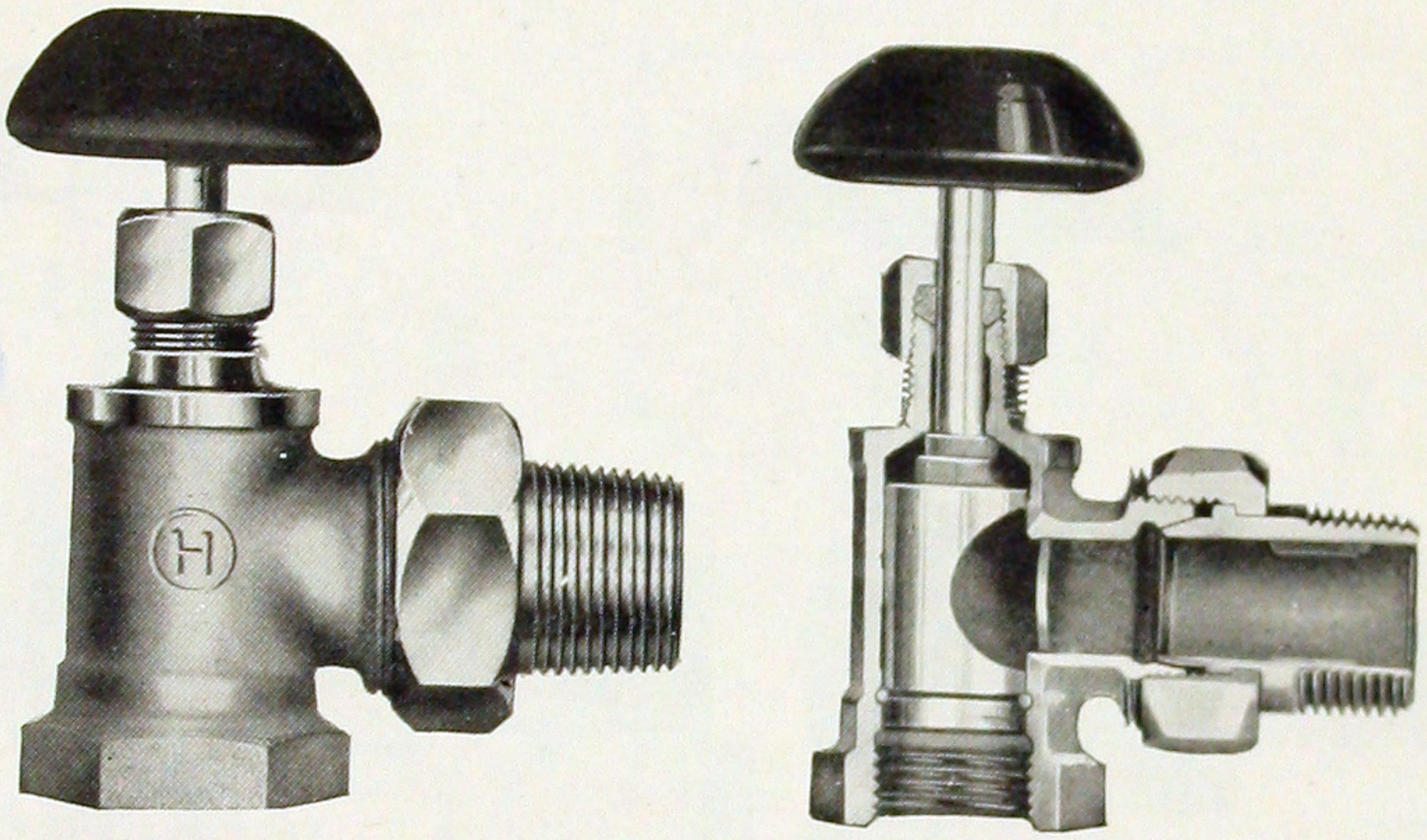


No. 480

ELIMINATES the necessity of a connection at both ends of a water radiator. Added convenience is obtained, the fitter's labor is reduced, and pipe and fittings are saved.

Opens and closes with one-sixth turn of the handle. Supplied full nickel plated with rough body and polished trimmings.

| No. | Size Inches | Center to Center of Elbows Inches | Center of Body to End of Spud Inches | Center of Spud to Bottom of Elbows Inches | Tapping of Radiator when Valve is Used Inches | List Price |
|---|---|---|---|---|---|---|
| 480 | ½ | 5 ½ | 2 7/8 | 1 7/8 | 1 ¼ | $4.25 |
| | ¾ | 5 ¾ | 2 7/8 | 1 7/8 | 1 ¼ | 5.40 |
| | 1 | 7 | 3 | 2 | 1 ½ | 5.80 |
| | 1 ¼ | 7 ½ | 3 ¼ | 2 5/8 | 2 | 7.95 |



No. 202

## Quick Opening—Bonnetless with Union

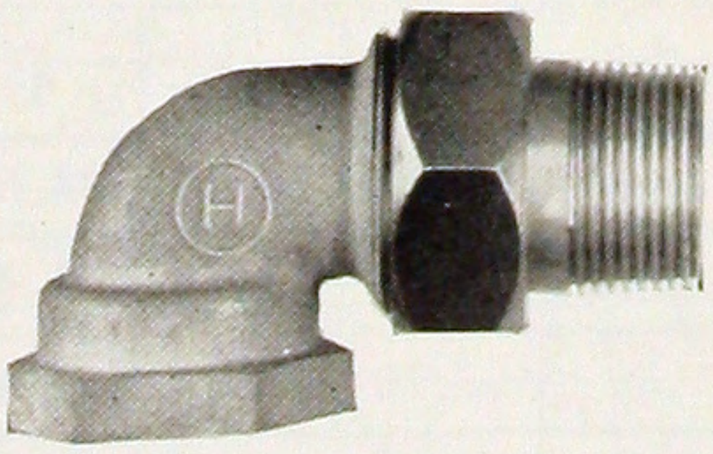
THIS valve is well-proportioned; the openings are full size; and each valve is carefully inspected and tested to make sure it measures up to the highest standards.

### List Prices

| No. | Size, Inches..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 202 | Rough body and polished trimmings, plated all over..... | $3.25 | $3.70 | $4.50 | $5.75 | $7.30 | $12.00 |

On special order can be furnished with lock and shield.
See page 9 for roughing-in measurements.

## Triton Union Radiator Elbows



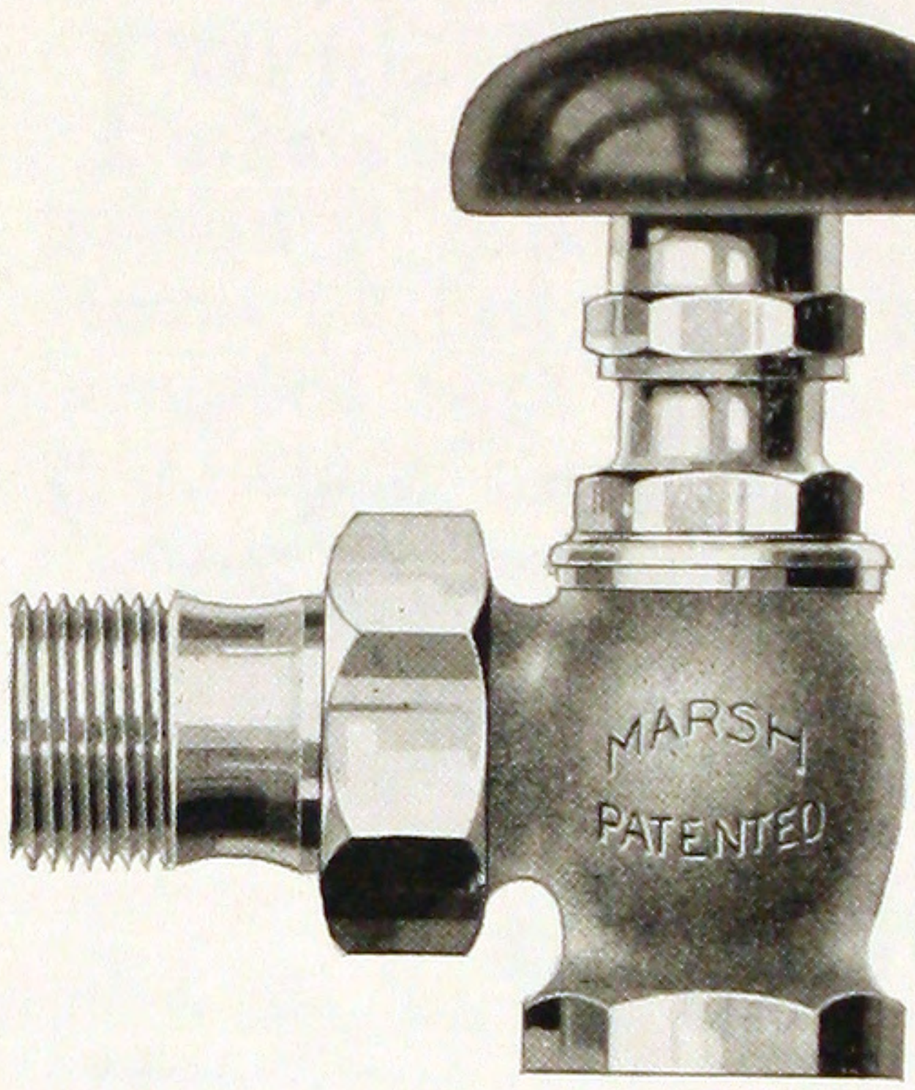
No. 42

### List Prices

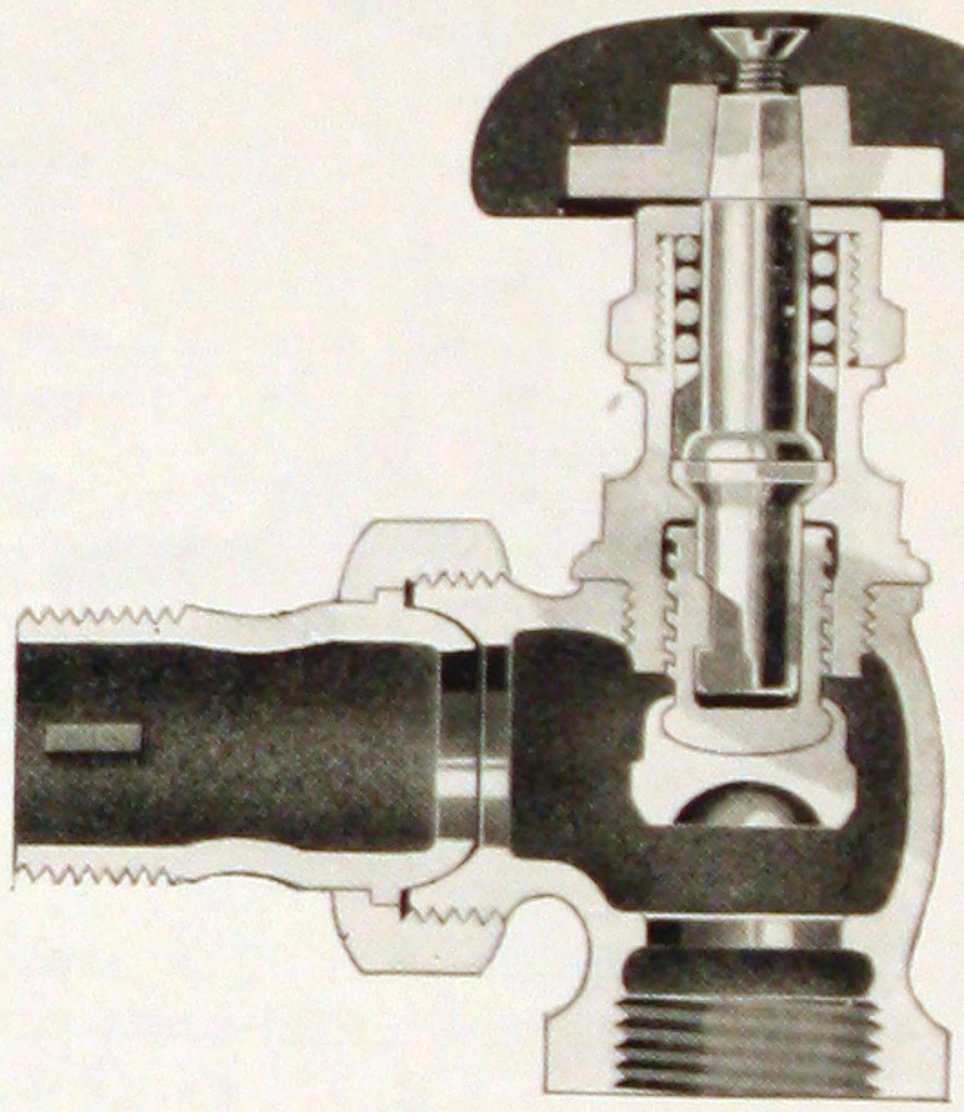
| No. | Size, Inches..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 42 | Rough body and polished trimmings, plated all over..... | $1.75 | $2.00 | $2.50 | $3.30 | $4.25 | $7.20 |
| 43 | Marsh Water Elbows... | 1.75 | 2.00 | 2.50 | 3.30 | 4.25 | 7.20 |

See page 9 for roughing-in measurements.

# MARSH PACKLESS HOT WATER RADIATOR VALVES




No. 137



No. 137

MARSH Packless Hot Water Radiator Valves are quick opening, can be operated, opened and closed, with perfect ease and positively will not stick or leak.

They will hold high pressure suitable for forced circulation up to any pressure radiation will stand.

No. 139 is a Graduated Packless Hot Water Radiator Valve of the same construction as No. 137.

**Oval Wheel, with Union Nickel Plated all over**

| No. | Size, Inches ..... | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|---|
| 137 | Angle..... | $3.25 | $3.70 | $4.50 | $5.75 | $7.30 | $12.00 |
| 137 | Corner and Back Offset | 4.10 | 4.75 | 5.60 | 7.05 | 9.25 | 15.00 |
| 139 | Angle..... | 3.70 | 4.30 | 5.10 | 6.40 | 8.40 | 13.60 |
| 139 | Corner and Back Offset | 4.10 | 4.75 | 5.60 | 7.05 | 9.25 | 15.00 |

All valves drilled through diaphragm to provide anti-freezing circulation unless otherwise specified.

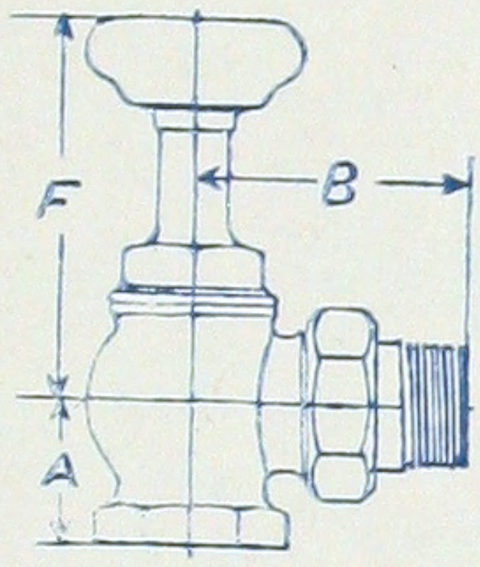
Lever handle No. 139 furnished 15c each additional net.

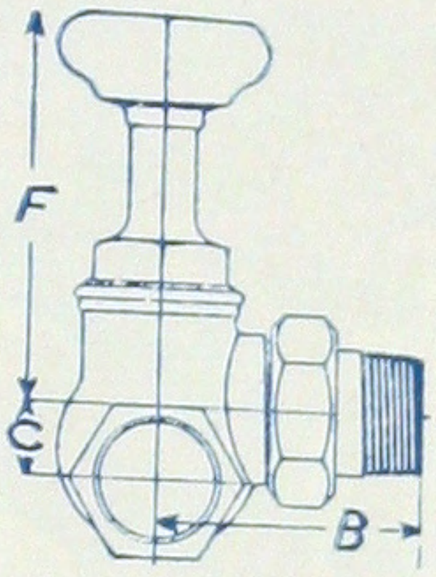
Lock shield valves furnished 10c each additional net.

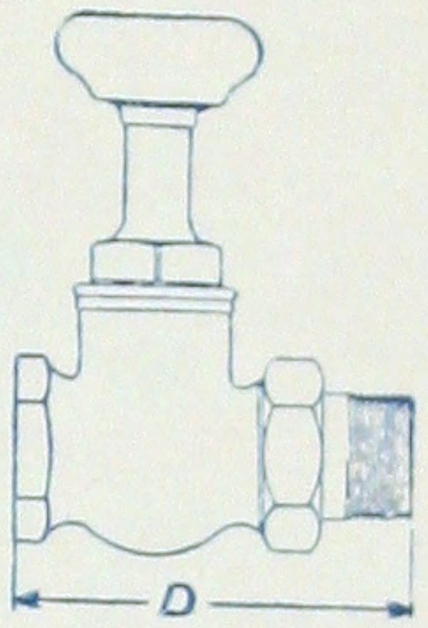
Also furnished with extension stems with dial and wheel.

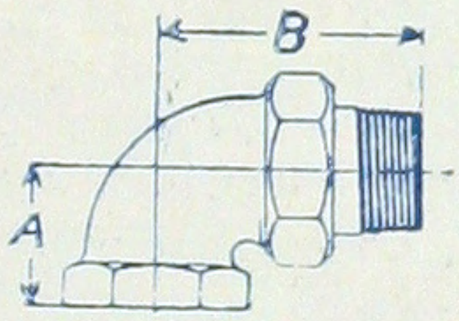
See page 9 for roughing-in measurements.

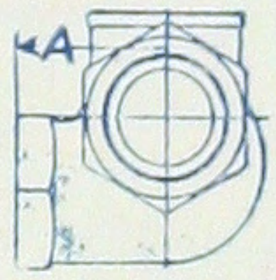
# MEASUREMENTS OF VALVES AND ELBOWS



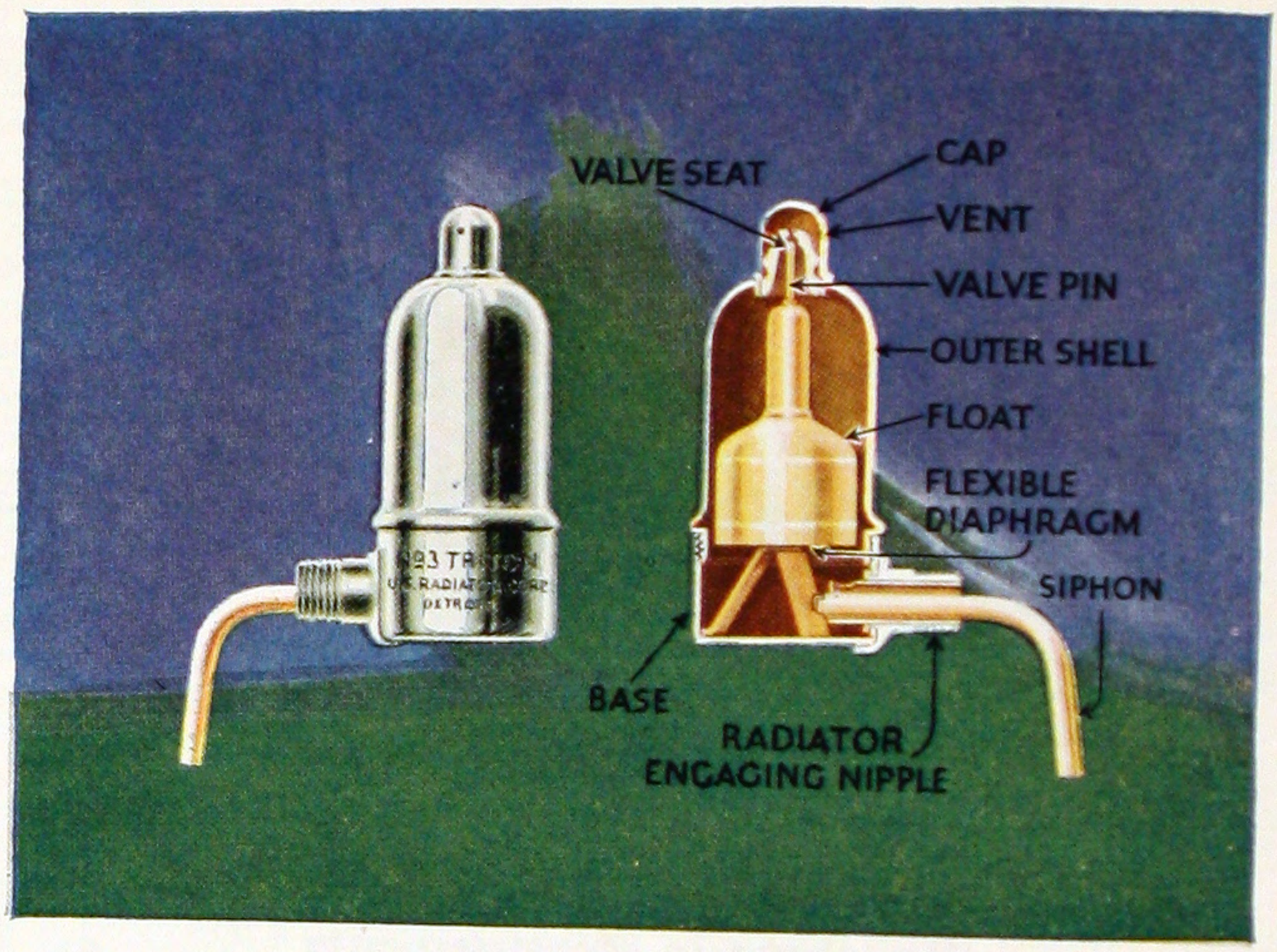




## Roughing-in Measurements

| Size, Inches | | ½ | ¾ | 1 | 1 ¼ | 1 ½ | 2 |
|---|---|---|---|---|---|---|---|
| 512 | A | 1 ¼ | 1 ⅜ | 1 ⅝ | 1 ⅞ | 2 ⅛ | 2 ¼ |
| 512 | B | 2 ¼ | 2 ¾ | 3 | 3 ½ | 3 ¾ | 4 ¼ |
| 522, 523 | A | 1 ¼ | 1 ⅜ | 1 ⅝ | 1 ⅞ | 2 ⅛ | 2 ¼ |
| 522, 523 | B | 2 ¾ | 2 ¾ | 3 | 3 ½ | 3 ¾ | 4 ¼ |
| 612, 622, 623, 722, 723 | A | 1 ¼ | 1 ½ | 1 ¾ | 2 | 2 ⅜ | 2 ⅝ |
| 612, 622, 623, 722, 723 | B | 2 ⅜ | 2 ⅞ | 3 ¼ | 3 ½ | 4 | 4 ¾ |
| 612, 622, 623, 722, 723 | C | 9/16 | ¾ | 13/16 | 15/16 | 1 5/16 | 1 ½ |
| 112, 312 | A | 1 1/16 | 1 ¼ | 1 7/16 | 1 ⅝ | 1 ⅞ | 2 9/16 |
| 112, 312 | B | 2 5/16 | 2 ⅝ | 3 | 3 ⅜ | 3 11/16 | 4 7/16 |
| 212 | A | 1 ¼ | 1 ⅜ | 1 ½ | 1 13/16 | 2 | 2 ½ |
| 212 | B | 2 7/16 | 2 13/16 | 3 | 3 ½ | 3 13/16 | 4 ½ |
| 212 | C | ¾ | 1 | 1 ⅛ | 1 3/16 | 1 ½ | 2 |
| 712, 812 | D | 3 ¾ | 4 3/16 | 4 11/16 | 5 ⅜ | 6 1/16 | 7 |
| 256 | D | 3 | 3 ½ | 4 | 4 ⅜ | 5 | 5 ½ |
| 202, 42 | A | 1 ⅛ | 1 ¼ | 1 ½ | 1 ¾ | 1 ⅞ | 2 5/16 |
| 202, 42 | B | 2 ⅜ | 2 ⅝ | 3 ¼ | 3 ½ | 3 3/16 | 4 7/16 |
| Marsh Elbows | A | 1 ⅛ | 1 9/32 | 1 ½ | 1 ¾ | 2 | 2 ¼ |
| Marsh Elbows | B | 2 ¾ | 2 ⅞ | 3 ¼ | 3 ½ | 3 ⅞ | 4 |
| 137, 139 | A | 1 ⅛ | 1 ¼ | 1 ⅜ | 1 ⅝ | 1 13/16 | 2 ¼ |
| 137, 139 | B | 2 ¾ | 3 | 3 ¼ | 3 ½ | 3 ⅞ | 4 |
| 137, 139 | F | 3 1/16 | 3 ⅛ | 3 3/16 | 4 | 4 ⅛ | |
| 137, 139 offset | A | 1 ½ | 1 ½ | 1 ½ | 1 13/16 | 2 ⅛ | 2 ½ |
| 137, 139 offset | B | 2 ⅞ | 3 ⅛ | 3 7/16 | 3 ¾ | 4 | 4 ½ |
| 137, 139 offset | C | ¾ | 1 | 1 5/32 | 1 3/16 | 1 ½ | 1 11/16 |
| 137, 139 offset | F | 3 | 3 ½ | 3 23/32 | 4 ⅜ | 4 ⅞ | 5 13/16 |




No. 3

## Full Radiator Efficiency Without Escaping Steam or Sputtering Water

A MARVEL of simplicity. Without complicated parts to get out of order, the No. 3 Triton Air Valve effectively vents all air from the radiator and eliminates water-logging.

All parts are of metal. The base is brass. The float, drawn brass. Solid brass rods form both valve-pin and seat. Diaphragm is of bronze.

Volatile liquid fills the float. Steam at 190° F. vaporizes it and forces the flexible diaphragm to seat the valve pin preventing any escape of steam. If water enters the float rises also seating the valve, stopping its escape.

A siphon tube in the base allows air to pass through any water which may be in the valve, equallizing the pressure and forcing the water back into the radiator.

Tampering has been made impossible and all dust and dirt kept out by an extra cap with a side vent which is soldered in place.

Finally, it is *guaranteed to operate perfectly for five years!*

No. 3 Triton Siphon Air Valve, supplied in angle pattern only, 1/8 inch connection, list.....$1.75.
Weight packed, 3 pounds per dozen.

# CAPITOL AUTOMATIC AIR VALVES


No. 1


No. 2

A COMBINATION float and expansion post assure the simple, trouble-free action of Capitol Automatic Air Valves.

When water enters the valve, the float is lifted until the pin closes the vent hole. The float drops the instant the water leaves.

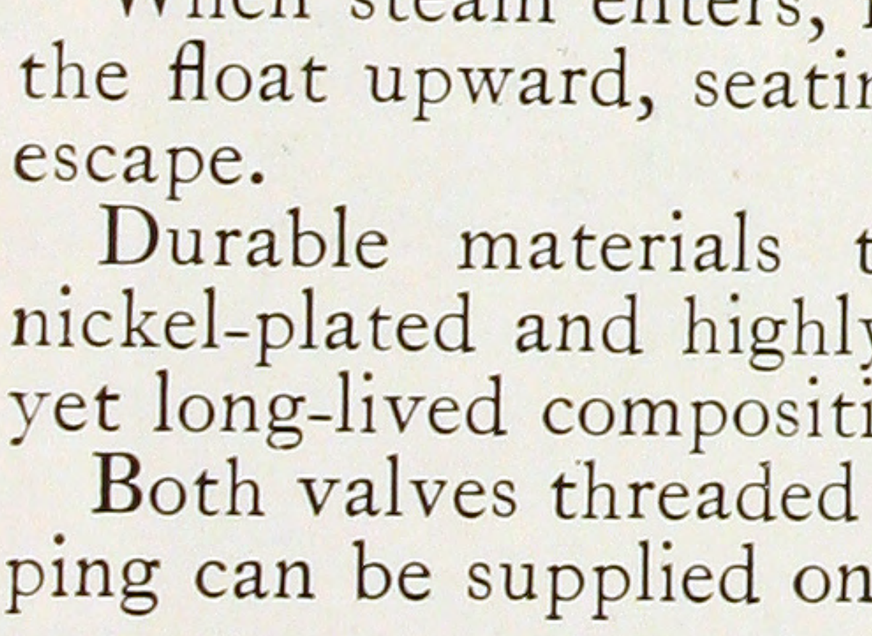
When steam enters, its heat expands the post, forcing the float upward, seating the valve, and preventing any escape.

Durable materials throughout. Brass valve body, nickel-plated and highly finished; an extremely sensitive yet long-lived composition forms the post.

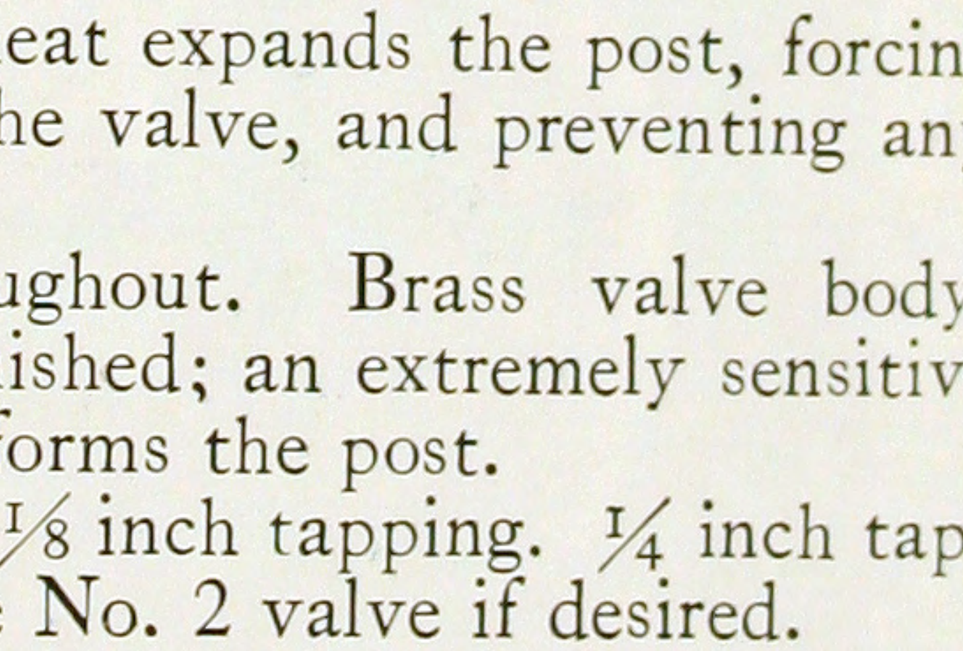
Both valves threaded for 1/8 inch tapping. 1/4 inch tapping can be supplied on the No. 2 valve if desired.

No. 1 Capitol, weight 3 lbs. per doz., list price, each ..... 75c
No. 2 Capitol, weight 3 lbs. per doz., list price, each ..... $1.00

## Compression Air Valves

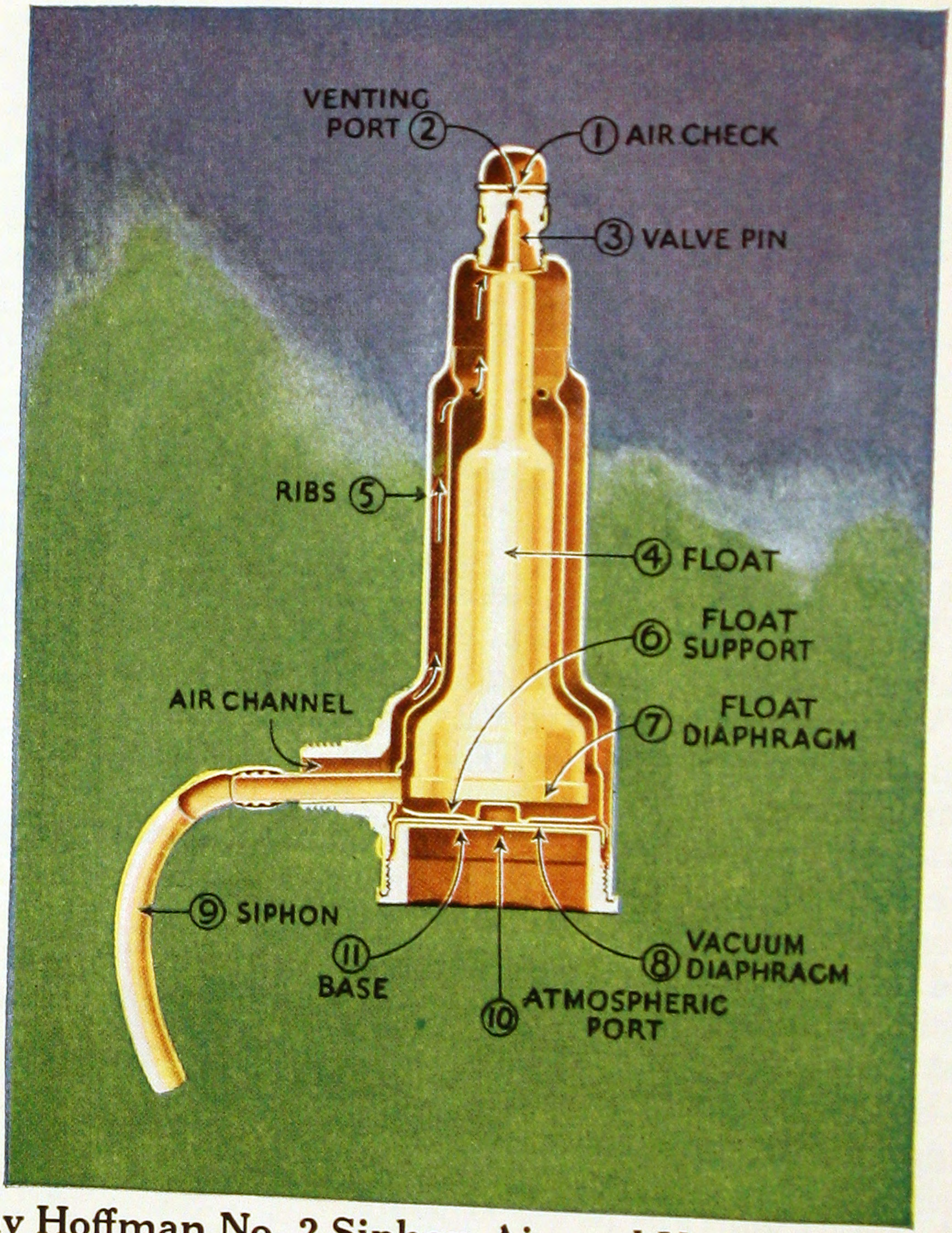


No. 8



No. 9

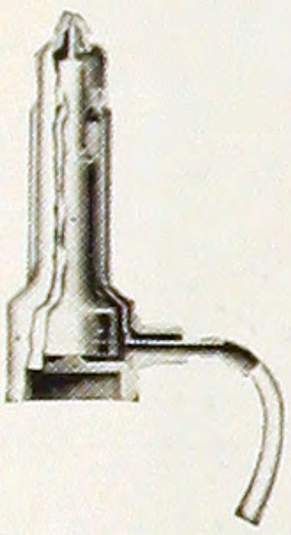
| | List per doz. |
|---|---|
| No. 8 wood wheel, nickel-plated, weight packed, 1 1/4 lbs. per doz. | $3.00 |
| No. 9 with key, nickel-plated, weight packed, 1 lb. per doz. | 2.50 |
| (Two keys furnished with each dozen) | |
| Extra keys, list price, each | 0.10 |




## Why Hoffman No. 2 Siphon Air and Vacuum Valves Keep Radiators Hot Longest

WITHOUT the noisy, damaging escape of steam or hot water, all air is vented from the radiator. One-pipe gravity steam installations are converted into vacuum systems and the radiators will remain hot longer than with any other type of valve. Air check (1) acts as a vacuum starter. Preventing the return of air through vent port (2), it forms a partial vacuum in the radiator. The air in the room then pushes up the vacuum diaphragm (8) causing the valve pin (3) to tightly close the vent port (2).

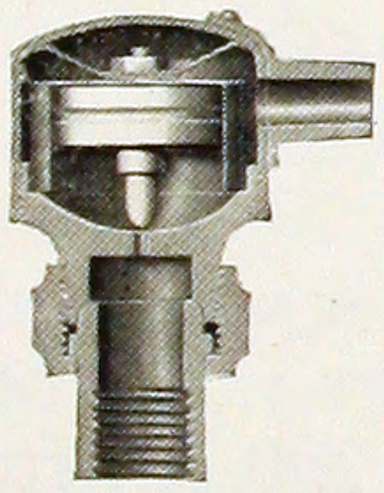
Like all Hoffman Valves, the No. 2 is automatic, non-adjustable and when correctly installed on the system for which it is intended is guaranteed to function properly for five years from the date of installation.



No. 1

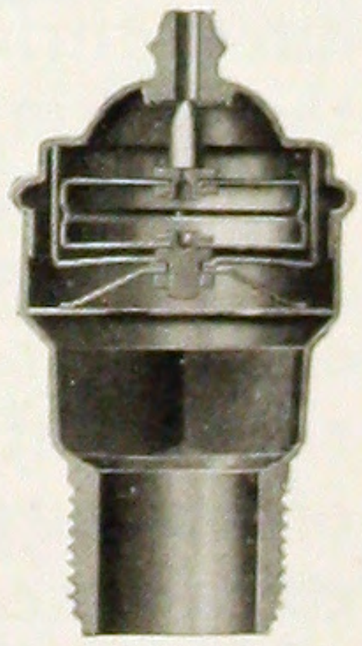
***No. 1 Hoffman Siphon Air Valve.*** Designed for one-pipe gravity systems. Vents all air from the radiator without loss of steam. The siphon drains all water that reaches it and venting continues even while the radiator is under pressure. Maximum heating efficiency is assured and leakage from water-logged radiators is prevented. 1/8-inch connection. Maximum guaranteed operating pressure, 10 pounds. List.....$1.90

***No. 2 Hoffman Siphon Air and Vacuum Valve.*** Similar in design to the No. 1, but with the addition of the vacuum features illustrated and described on opposite page. List $4.50



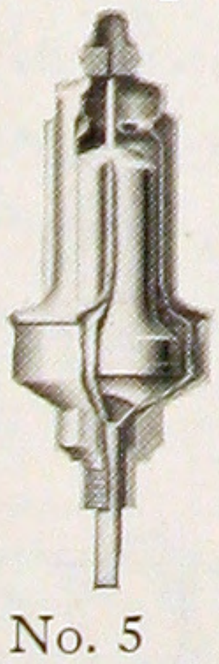
No. 3

***No. 3 Hoffman Air Line Valve.*** A compact, well constructed valve for Air Line, or "Paul" Systems. Sensitive in action, it closes the instant steam reaches the valve. No adjustment required either before or after installation. 1/8-inch male radiator connection: 1/4-inch air line connection. 10 lbs. maximum guaranteed operating pressure. List....$2.50



No. 4

***No. 4 Hoffman Quick Vent Valve.*** For use in venting risers, steam mains, etc., where water will not come into contact with it. Vents all air through 1/8-inch vent port without loss of steam (but will not prevent escape of water). 3/4-inch standard connection. Also supplied with 1/4-inch connection. 10 pounds maximum guaranteed operating pressure. List.....$2.80

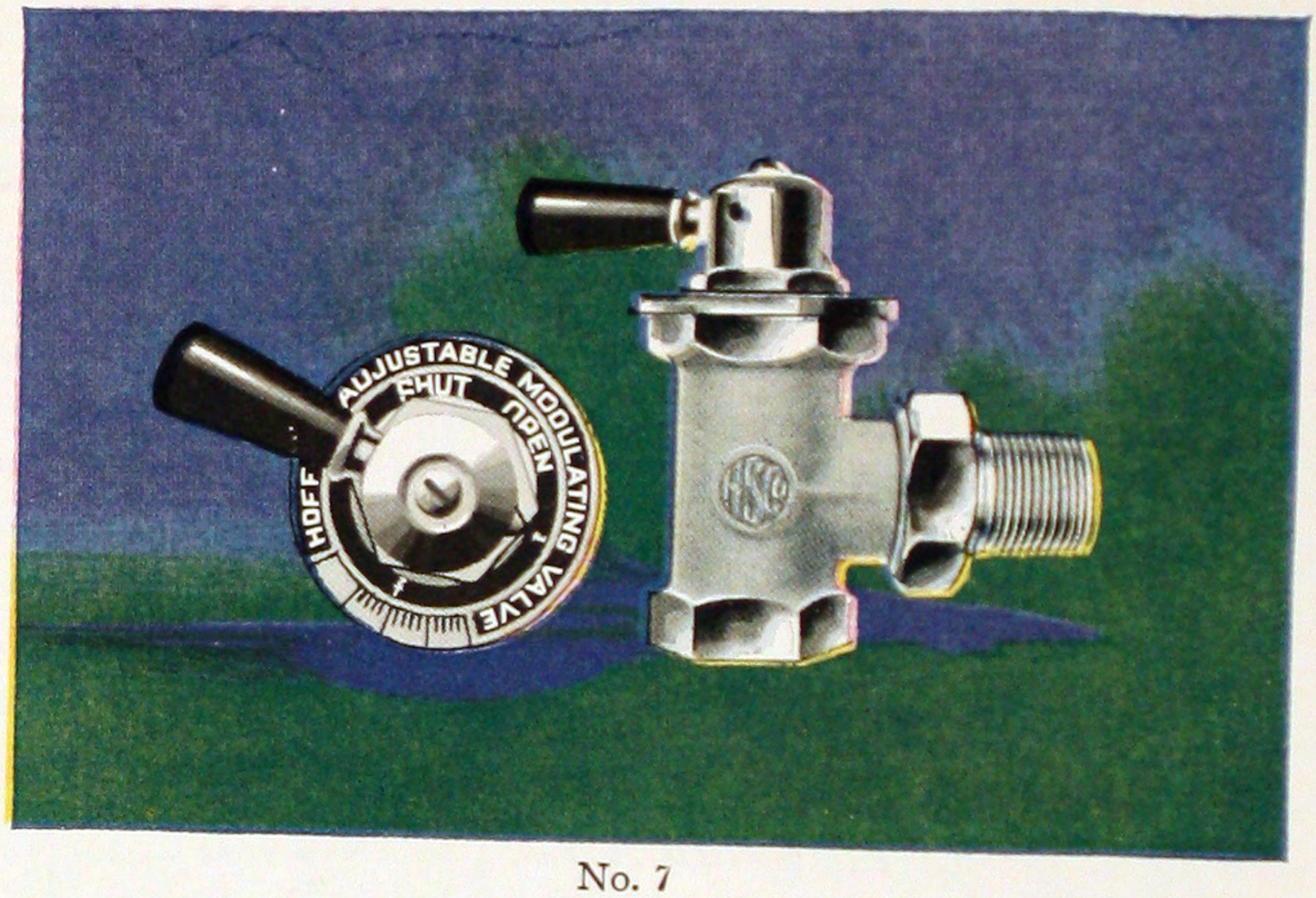


No. 5

***No. 5 Hoffman Quick Vent Float Air Valve.*** A triple duty type for venting steam mains, return lines, indirect stacks, and for use whenever air and water are factors. Vents all air; closes tightly against steam; and prevents escape of water through vent port. Pipe connection, 3/8-inch. 3/16-inch vent port, special, for less than 3 pounds pressure, 1/16-inch port for over, up to 10 pounds maximum guaranteed operating pressure. List...$8.00

No. 6

***No. 6 Hoffman Quick Vent Float Air and Vacuum Valve.*** Same as No. 5 with addition of vacuum principle described for No. 2 valve. List..... $12.00

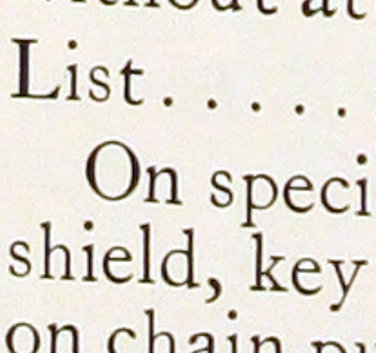


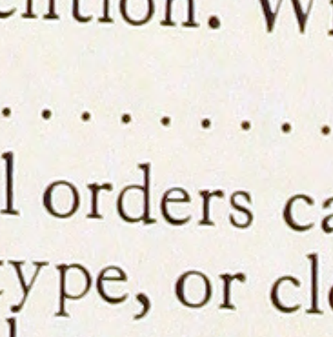

No. 7

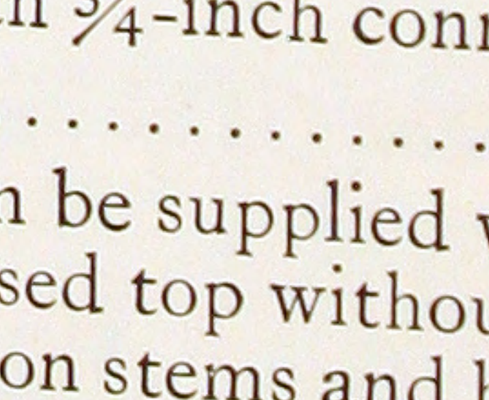
## Controls Heat—Saves Coal

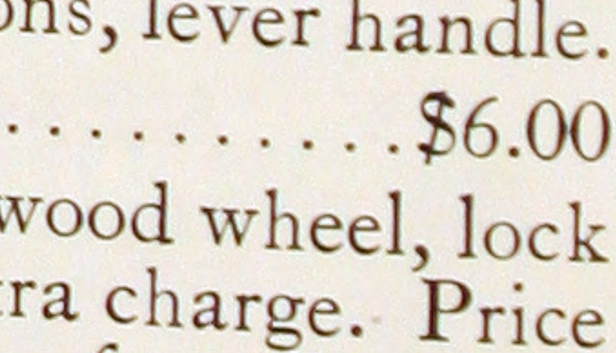
***No. 7 Hoffman Adjustable Modulating Valve.*** For vapor or vapor vacuum systems. ¾-inch size only, with a range of adjustment permitting use on radiators up to 200 sq. ft. direct surface. Easily adjusted after installation whether the system is hot or cold. Simply loosen a locknut, turn the valve handle until the required number of graduations are visible on the dial plate, and tighten the nut again. The amount of steam admitted to the radiator can then be precisely controlled to bring into action any desired amount of heating surface. The stuffing box of the valve is specially constructed with metallic fibre packing to last indefinitely without attention. With ¾-inch connections, lever handle. List . . . . . $6.00

On special orders can be supplied with wood wheel, lock shield, key type, or closed top without extra charge. Price on chain pull or extension stems and handles for ceiling and concealed radiators will be quoted on application.

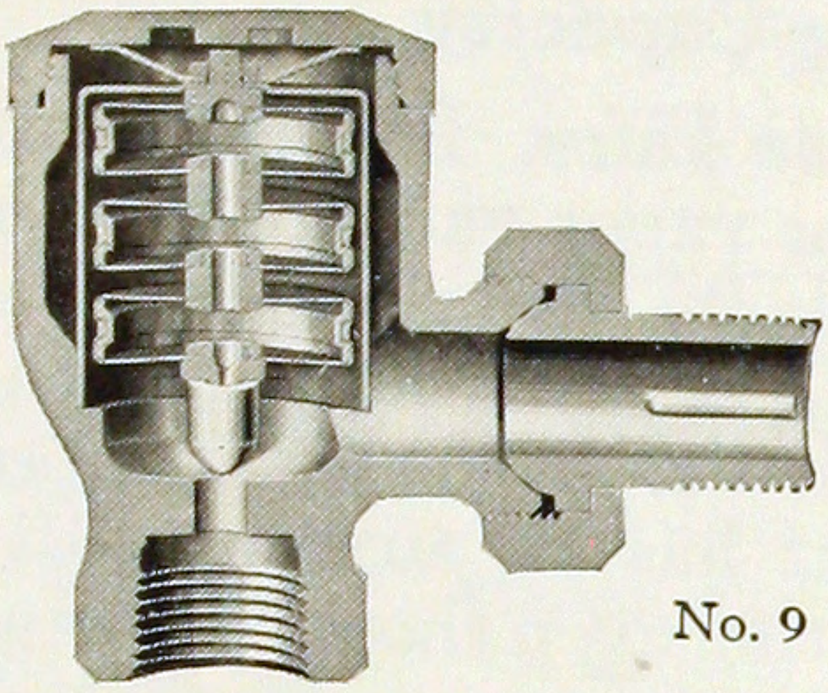








## Consistent Operation up to 50 lbs. Pressure



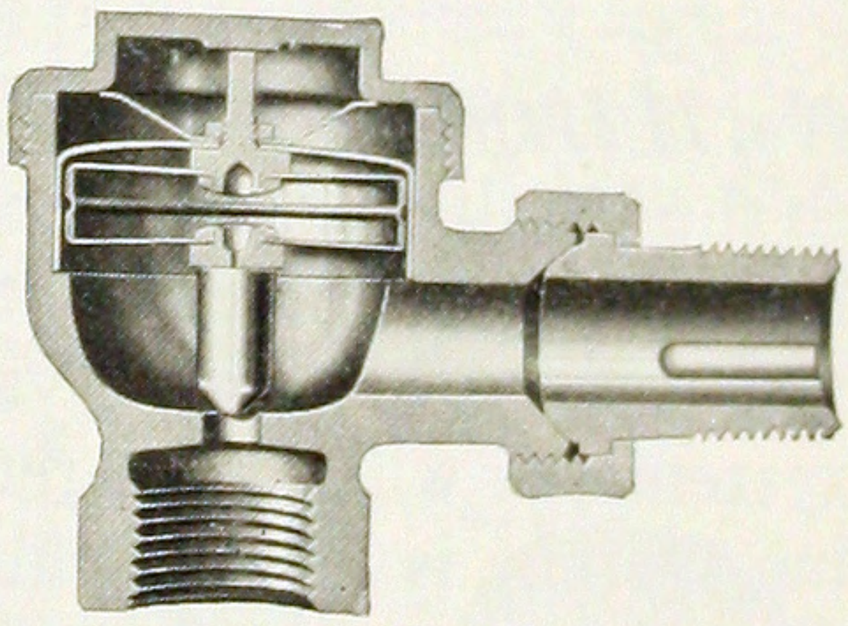
No. 9

*No. 8 and No. 9 Hoffman Return Line Valves* eliminate air and condensation from radiators in vapor or vapor vacuum systems. Also used as steam traps in industrial work. Non-adjustable and will operate uniformly at any pressure within its working range. Thermostats are interchangeable without adjustment.

No. 8, list $6.00. No. 9, list $8.00. No. 9 straightway pattern, price on application.
See data below for patterns and sizes.

## Pressures up to 15 lbs. and Radiation up to 100 ft.

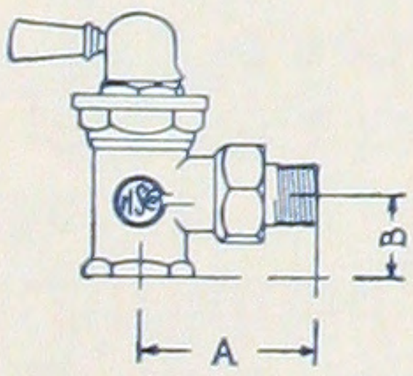
*No. 18 Hoffman Return Line Valve* similar in application to the No. 8. The thermostat, of special diaphragm metal that will not soften or stretch, contains an extremely sensitive thermostatic fluid. Operate consistently under varying pressures. Interchangeable without adjustment.



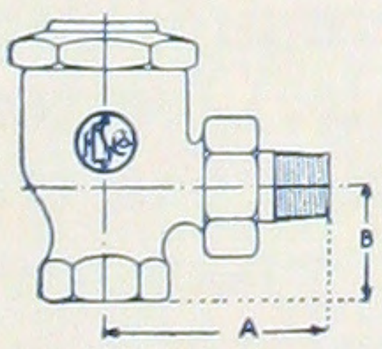
No. 18

½-inch, angle, straightway, right or left hand offset patterns. List $4.50.

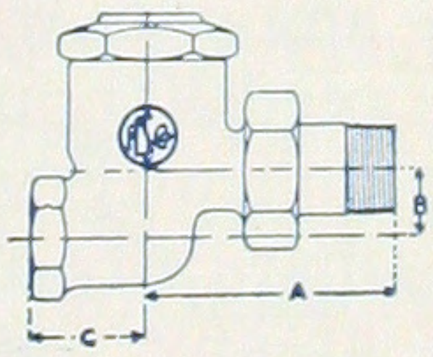
## Hoffman Valve Measurements



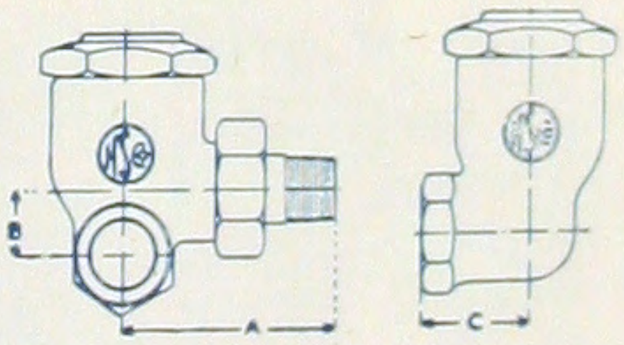

No. 7
Angle




No. 8, 9 and 18
Angle



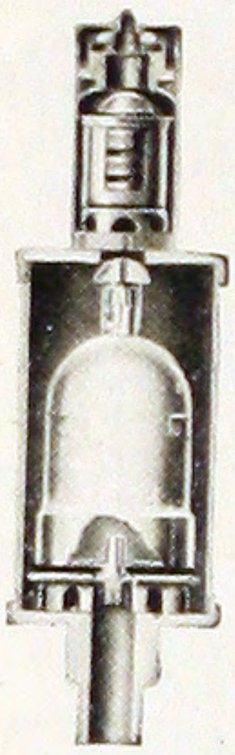

No. 8 and 18
Straightway




No. 8 and 18
Right or Left Offset

| STYLE | Size Inches | Diameter Valve Port Inches | Maximum Capacity Sq. Ft. | DIMENSIONS** A | B | C |
|---|---|---|---|---|---|---|
| No. 7 Angle | ¾ | .. | 200 | 2 7/8 | 1 3/8 | . . . |
| No. 8 Angle | ½ | ¼ | 200 | 2 23/32 | 1 9/32 | . . . |
| No. 8 Straightway | ½ | ¼ | 200 | 2 23/32 | 25/32 | 1 13/32 |
| No. 8 Offset | ½ | ¼ | 200 | 2 23/32 | 25/32 | 1 5/16 |
| No. 18 Angle | ½ | ¼ | 100 | 2 ¾ | 1 ¼ | . . . |
| No. 18 Straightway | ½ | ¼ | 100 | 2 ¾ | 7/8 | 1 3/8 |
| No. 18 Offset | ½ | ¼ | 100 | 2 ¾ | 7/8 | 1 3/8 |
| No. 9 Angle | ¾ | 3/8* | 600 | 3 3/32 | 1 11/32 | . . . |

*No. 9 Valve furnished with 3/16-inch port for pressures above 15 pounds.
**When specified, Traps and Return Line Valves, will be supplied in accordance with measurements adopted by the Heating and Piping Contractors National Association, i. e., 3 ¼-inch from center to face.



No. 10

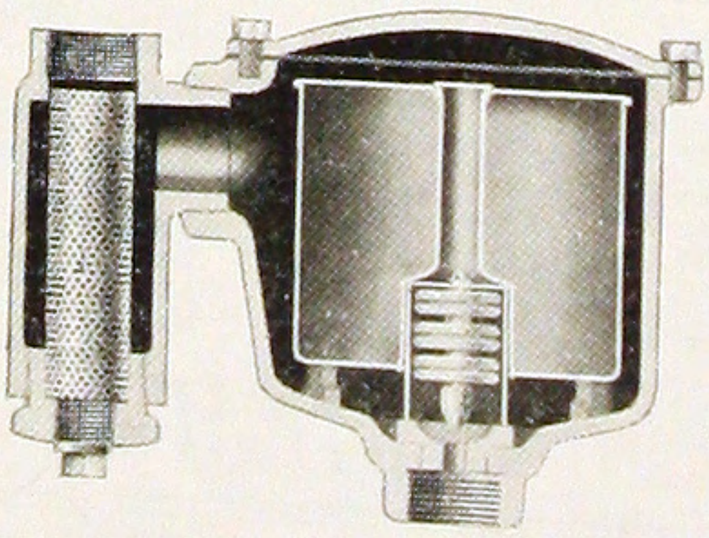
## For Large Venting Capacity

***No. 10 Hoffman Vapor Valve.*** For the return mains of large vapor or vapor vacuum systems or any service where large venting capacity is required and steam, air, or water must be properly handled. A double valve (the ¾-inch port controlled by the float has an auxiliary 3/16-inch port) permits venting even though pressure is maintained after a surge of water recedes from the valve. An airway equivalent to a ¾-inch valve port extends through the valve, assuring free venting. Guaranteed up to 15 lbs. pressure. Pipe connection, ¾-inch. List $25.00

No. 11

***No. 11 Hoffman Vapor Vacuum Valve.*** Similar to the No. 10 but with the addition of a vacuum feature which prevents return of air through the vent port. For venting vapor or vapor-vacuum systems, or wherever a return of air, after venting system, is not desirable.....List $28.00

## Drains Large Amounts of Condensation



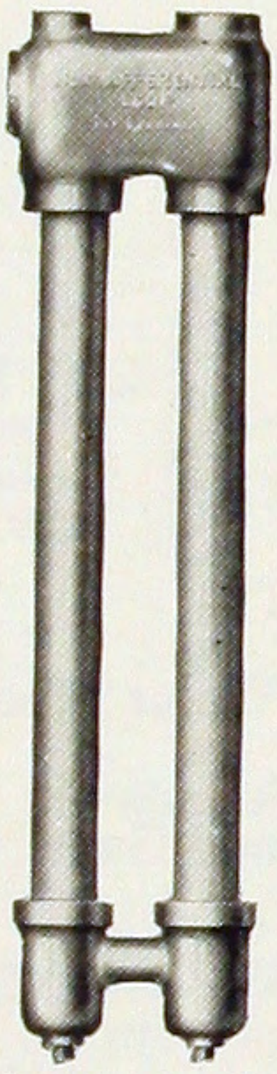
No. 12

***No. 12 Hoffman Blast Trap.*** For draining condensation in large amounts where pressure does not exceed 30 pounds. Overcomes the chief difficulty with float traps by automatically and promptly eliminating, at any temperature, air as well as condensation from the system, without waste of steam. List with strainer .....$30.00
Without strainer..... 25.00

## Table of Nominal Capacities

| Pressure pounds per square inch ..... | ½ | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Capacity pounds per hour ..... | 800 | 1,000 | 1,500 | 1,800 | 2,000 | 2,500 |
| Capacity in square feet of radiation on the basis of ¼-pound of condensation per hour per square foot ..... | 3,200 | 4,000 | 6,000 | 7,200 | 8,000 | 10,000 |

Maximum Operating Pressure 30 pounds.
Capacities for over 5 pounds pressure furnished on application.
With Strainer; inlet connection, 1-inch; outlet, 1-inch.
Without Strainer; inlet connection, 1 ¼-inch; outlet, 1-inch.



## Hoffman Differential Loop
## "Watchman of the Water Line"

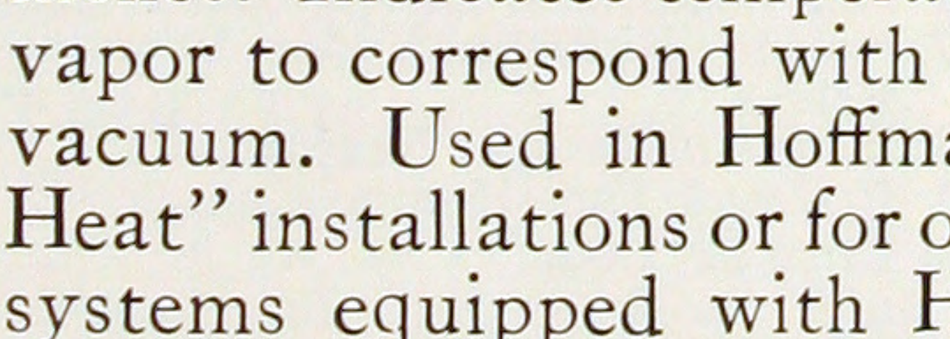
***Hoffman Differential Loop.*** An extremely simple, efficient device which prevents water from backing up in the return main and maintains the constant differential pressure between the steam and return lines.

When steam pressure is generated the loop functions; the thermostatic venting valve connected to loop closes, compressing the air in the return, and building up the pressure to the differential required to stop the rise of water beyond a predetermined height.

Sold in connection with Hoffman Controlled Heat Systems. Separate loops supplied only when heating system plans have our approval. Furnished in capacities up to 10,000 square feet direct radiation. Larger sizes made to order. Prices on application.

***Hoffman Ther-Kompo Gauge*** measures pressure up to 30 pounds, vacuum up to 30 inches, and temperatures up to 225 degrees. Registers in ounces up to 5 pounds. Records vacuum in half inches up to 10 inches. Indicates temperature of steam or vapor to correspond with the pressure or vacuum. Used in Hoffman "Controlled Heat" installations or for one pipe gravity systems equipped with Hoffman No. 2 Siphon Air and Vacuum Valves, it indicates when the plant is operated above or below 212 degrees. ½-inch connection. Length of "Thermometer Well" permits installing the gauge in a 1-inch standard reducing tee. List.....$10.00

Thermo-Kompo Gage



Damper Regulator

***Hoffman Damper Regulator*** controls the boiler dampers, responding immediately when any radiator valve is turned on or off. Practically frictionless and remarkably sensitive. Automatic in operation and once set at the desired pressure requires no attention. Fits any type boiler. Supplied equipped with lever, weights, chain, and pulleys. List, $30.00

*(Grouped for Convenience in Figuring)*

## Radiator Specialties

| | | | | |
|---|---|---|---|---|
| 1 | No. 7 | ¾" | Hoffman Adjustable Modulating Valve (Capacity up to 200 Square Feet Radiation) | List Price per Radiator $12.00 |
| 1 | No. 8 | ½" | Hoffman Return Line Valve (Capacity up to 200 Square Feet Radiation) | |
| 1 | No. 7 | ¾" | Hoffman Adjustable Modulating Valve (Capacity up to 200 Square Feet Radiation) | List Price per Radiator $10.50 |
| 1 | No. 18 | ½" | Hoffman Return Line Valve (Capacity up to 100 Square Feet Radiation) | |

## Standard Basement Specialties

CLASS A-A BASEMENT SPECIALTIES for installations up to 1000 Square Feet direct radiation, consisting of:—

2 No. 18 Return Line Valves, for venting Steam Mains into dry returns.
1 Hoffman Differential Loop.
1 No. 6 Hoffman Float Air and Vacuum Valve.
1 Hoffman Damper Regulator.
1 Hoffman Ther-Kompo Gage

List Price $90.00.

CLASS A BASEMENT SPECIALTIES for installations up to 2000 Square Feet direct radiation, consisting of:—

2 No. 8 Hoffman Return Line Valves, for venting Steam Mains into Dry Return.
1 No. 1 Hoffman Differential Loop.
1 No. 11 Hoffman Vapor Vacuum Valve.
1 Hoffman Damper Regulator.
1 Hoffman Ther-Kompo Gage.

List Price $112.00.

CLASS B BASEMENT SPECIALTIES for installations of 2001 to 3500 Square Feet direct radiation, consisting of:—

3 No. 8 Hoffman Return Line Valves, for venting Steam Mains into Dry Return.
1 No. 2 Hoffman Differential Loop.
1 No. 11 Hoffman Vapor Vacuum Valve.
1 Hoffman Damper Regulator.
1 Hoffman Ther-Kompo Gage.

List Price $133.00.

CLASS C BASEMENT SPECIALTIES for installations of 3501 to 7500 Square Feet direct radiation, consisting of:—

4 No 8 Hoffman Return Line Valves, for venting Steam Mains into Dry Return.
1 No. 3 Hoffman Differential Loop.
1 No. 11 Hoffman Vapor Vacuum Valve.
1 Hoffman Damper Regulator.
1 Hoffman Ther-Kompo Gage.

List Price $165.00.

CLASS D BASEMENT SPECIALTIES for installations of 7501 to 15000 Square Feet direct radiation, consisting of:—

6 No. 8 Hoffman Return Line Valves, for venting Steam Mains into Dry Return.
1 No. 4 Hoffman Differential Loop.
2 No. 11 Hoffman Vapor Vacuum Valves.
1 Hoffman Damper Regulator.
1 Hoffman Ther-Kompo Gage.

List Price $242.00.

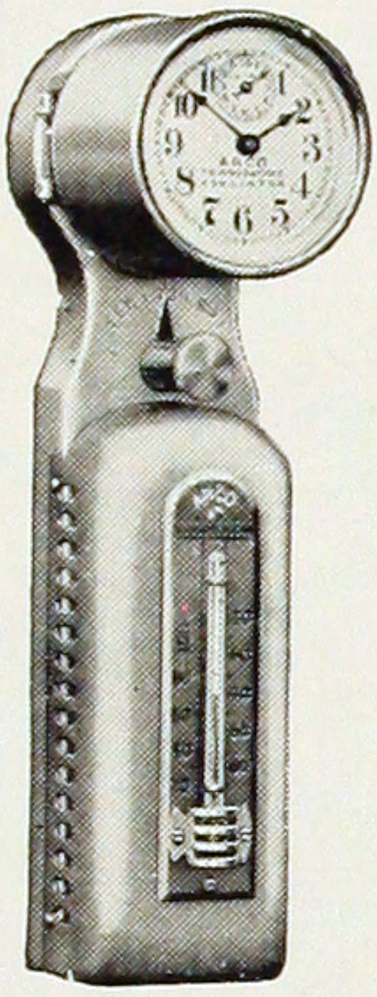
## *Additional Equipment

Prices are grouped for convenience in figuring, but do not cover all classes of work, therefore add to list price for any additional equipment required to meet special conditions as follows:

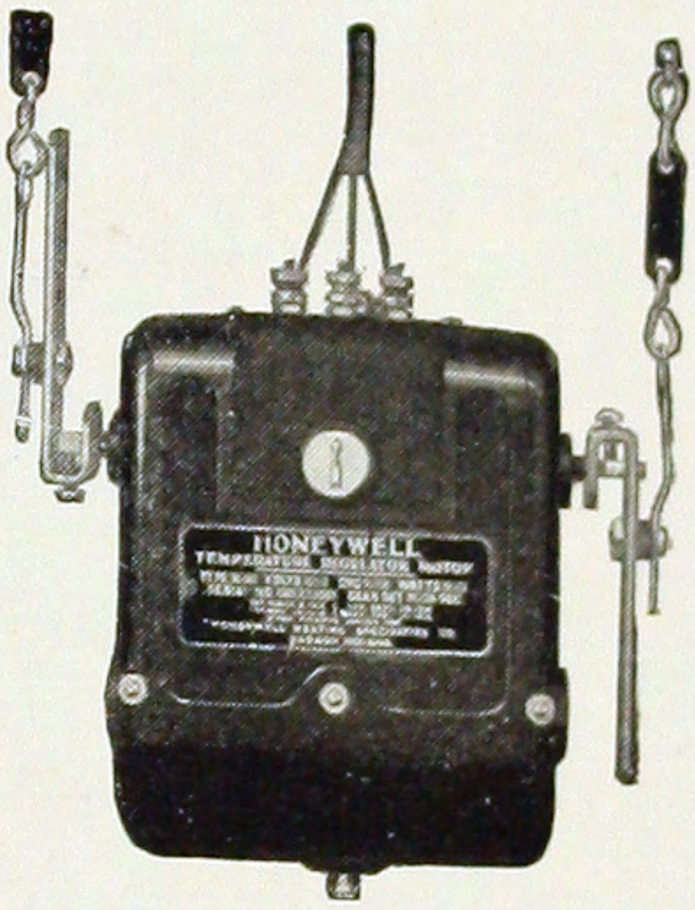
| | |
|---|---|
| Risers 50 ft. or less when dripped through Return Line Valves | $6.00 List for each No. 8 Valve |
| Ends of Steam Mains 100 ft. or less when dripped through Return Line Valves | 8.00 List for each No. 9 Valve<br>4.50 List for each No. 18 Trap |
| For longer Risers or Steam Mains | 30.00 List for each No. 12 (with strainer)<br>25.00 List for each No. 12 (without strainer) |
| Extra Return Line Valves for Venting Mains, Indirect Radiators, Etc., into Dry Return | 6.00 List for each No. 8 Valve<br>4.50 List for each No. 18 Trap |
| Extra Return Line Valves for Indirect Radiators, Unit, Vento or Aerofin Heaters, Etc. | 6.00 List for each No. 8 Valve<br>4.50 List for each No. 18 Trap<br>8.00 List for each No. 9 Valve<br>30.00 List for each No. 12 (with strainer)<br>25.00 List for each No. 12 (without strainer) |

**When specialties are needed for more than one boiler add $37. list price for each additional boiler.*

# HONEYWELL ROOM TEMPERATURE REGULATORS



Type R
15-20 Day Clock



Type D
Electric Motor

## Electric Motor Combinations

Type D-R Regulator, list..... $80.00
Type D-6 Regulator, list..... 68.00
Type D-Q Regulator, list..... 60.00

## Spring Motor Combinations

Type S-R Regulator, list..... $64.00
Type S-6 Regulator, list..... 52.00
Type S-Q Regulator, list..... 44.00

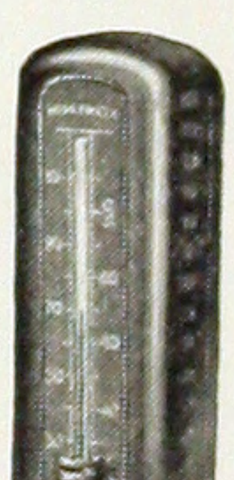
## Gravity Motor Combinations

Type G-R Regulator, list..... $57.00
Type G-6 Regulator, list..... 45.00
Type G-Q Regulator, list..... 37.00

Batteries required for spring and gravity motors. Batteries not furnished.

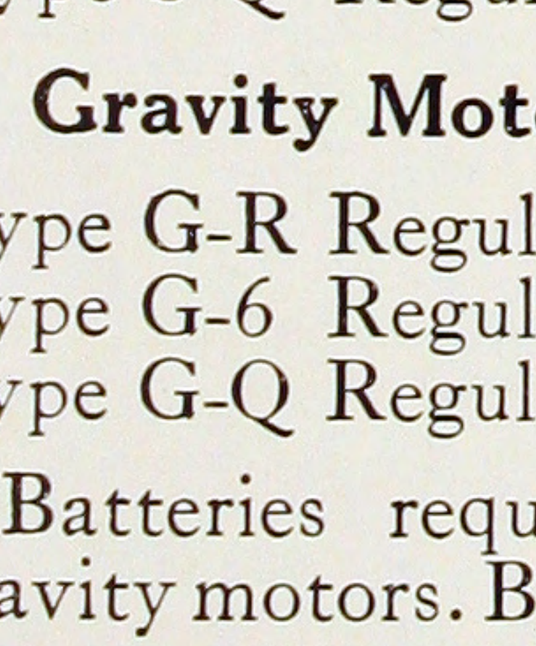
Special Low Voltage Transformer for Spring and Gravity Motors, list $5.00

Extra charge for furnishing other than 110 volt, 60-cycle current motors.



Type Q
Plain Pattern

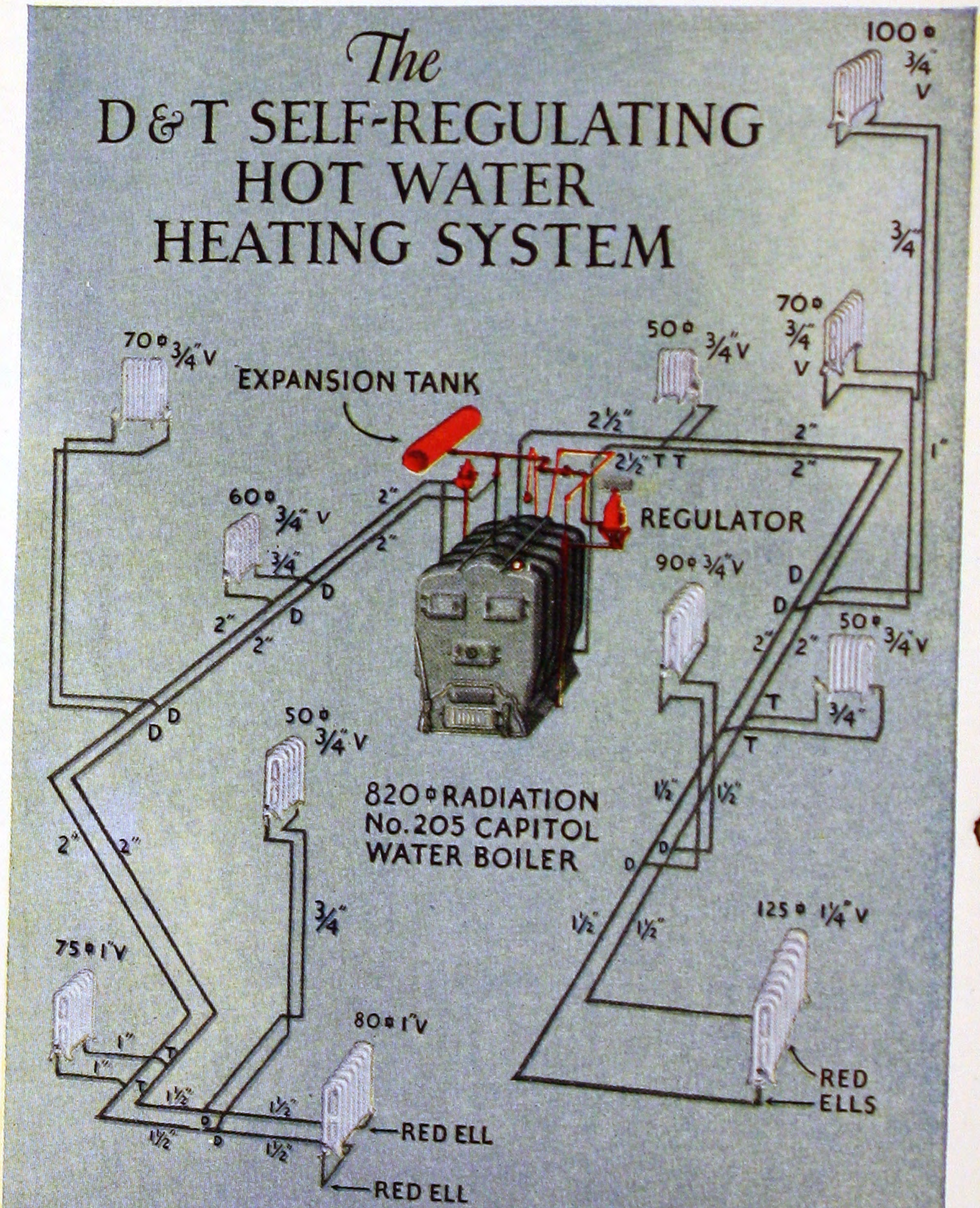
Type 6
One Day Clock



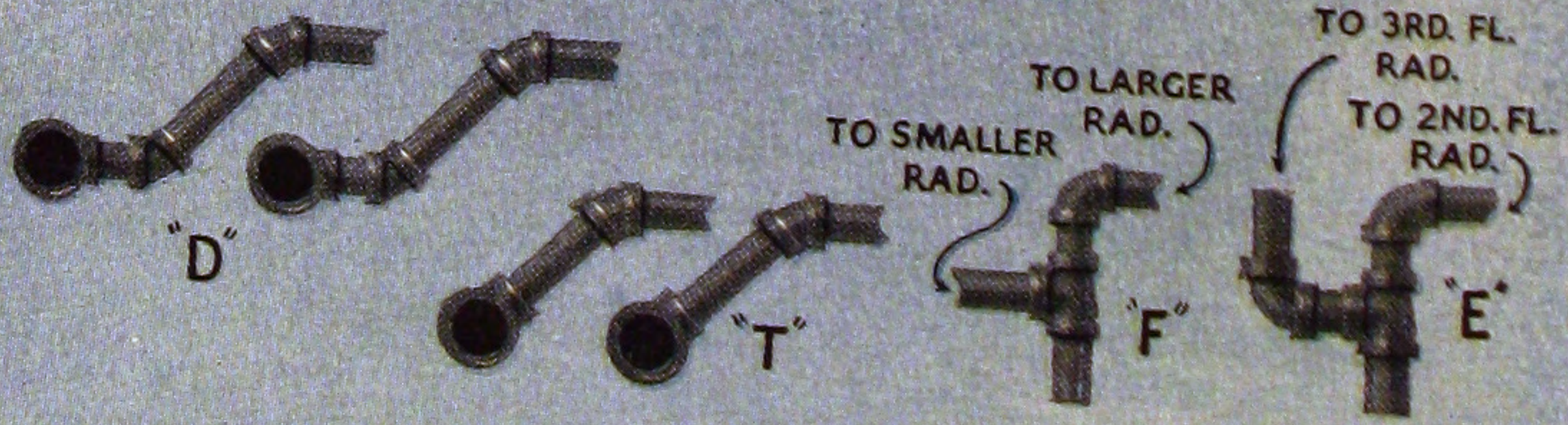

Type C
Vaporstat

For Steam or Vapor Systems. Limits the boiler pressure or temperature to meet heat requirements of installation. Type B Aquastat for Water Systems, list.....$20.00

# *The* D&T SELF-REGULATING HOT WATER HEATING SYSTEM




## TYPICAL PIPING PLAN




## TYPICAL CONNECTIONS

Showing simple, out-of-the-way installation of the D & T System.

OVER 150,000 users testify to the efficiency of the D&T Tank-in-Basement System for minimizing the amount of water required to fill a hot water system and for steadily maintaining the pressure in exact relation to the required temperature.

## Complete Equipment Furnished

1 Superior Air-Sealed Heat Generator.
1 Diaphragm Regulator.
1 Pressure Gauge
1 Airtight Expansion Tank Adjustment Plate, Chains and Pulleys.

| | List |
|---|---|
| No. 2 System for one- and two-story buildings | $60.00 |
| No. 3 System for three-story buildings | 60.00 |
| No. 4 System for four-story buildings | 60.00 |
| No. 5 System for five-story buildings | 65.00 |

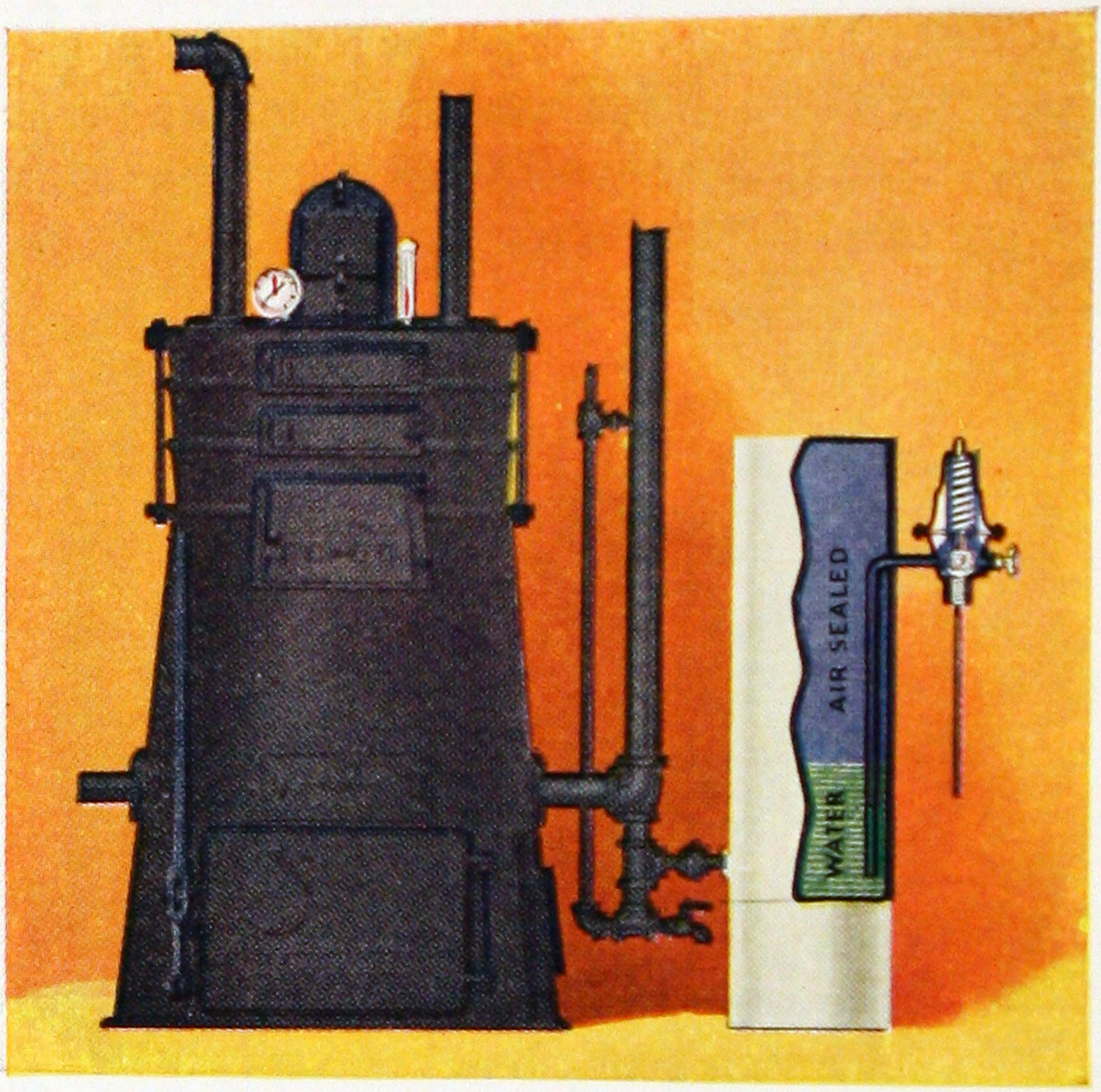
Capacity up to 1400 sq. ft. of radiation.
1400-3500 sq. ft. extra charge for additional tank capacity.

Schedule of tank sizes furnished with standard systems and with systems requiring larger than forty-gallon tank.

| Sq. ft. of radiation | Gals. |
|---|---|
| 250-350 | 18 |
| 350-450 | 21 |
| 450-650 | 24 |
| 650-900 | 30 |
| 900-1100 | 35 |
| 1100-1400 | 40 |

| Sq. ft. of radiation | Gals. |
|---|---|
| 1400-1600 | 1-24 and 1-30 |
| 1600-1800 | 2-30 |
| 1800-2000 | 2-35 |
| 2000-2400 | 2-40 |
| 2400-2800 | 3-30 |
| 2800-3000 | 2-40 and 1-30 |
| 3000-3500 | 3-40 |

D & T Tank-in Basement Equipment guaranteed 5 years.




## Guaranteed for 5 Years

A THOROUGHLY tested, entirely proved, and unconditionally guaranteed hot water system of extreme simplicity and economy. Costs less installed than any other tank-in-basement system. Guaranteed for five years.

*Shipped complete in one convenient package consisting of:*

1 Specially Constructed Air-tight Expansion Tank

1 Relief Valve

1 Thermometer

1 Gauge

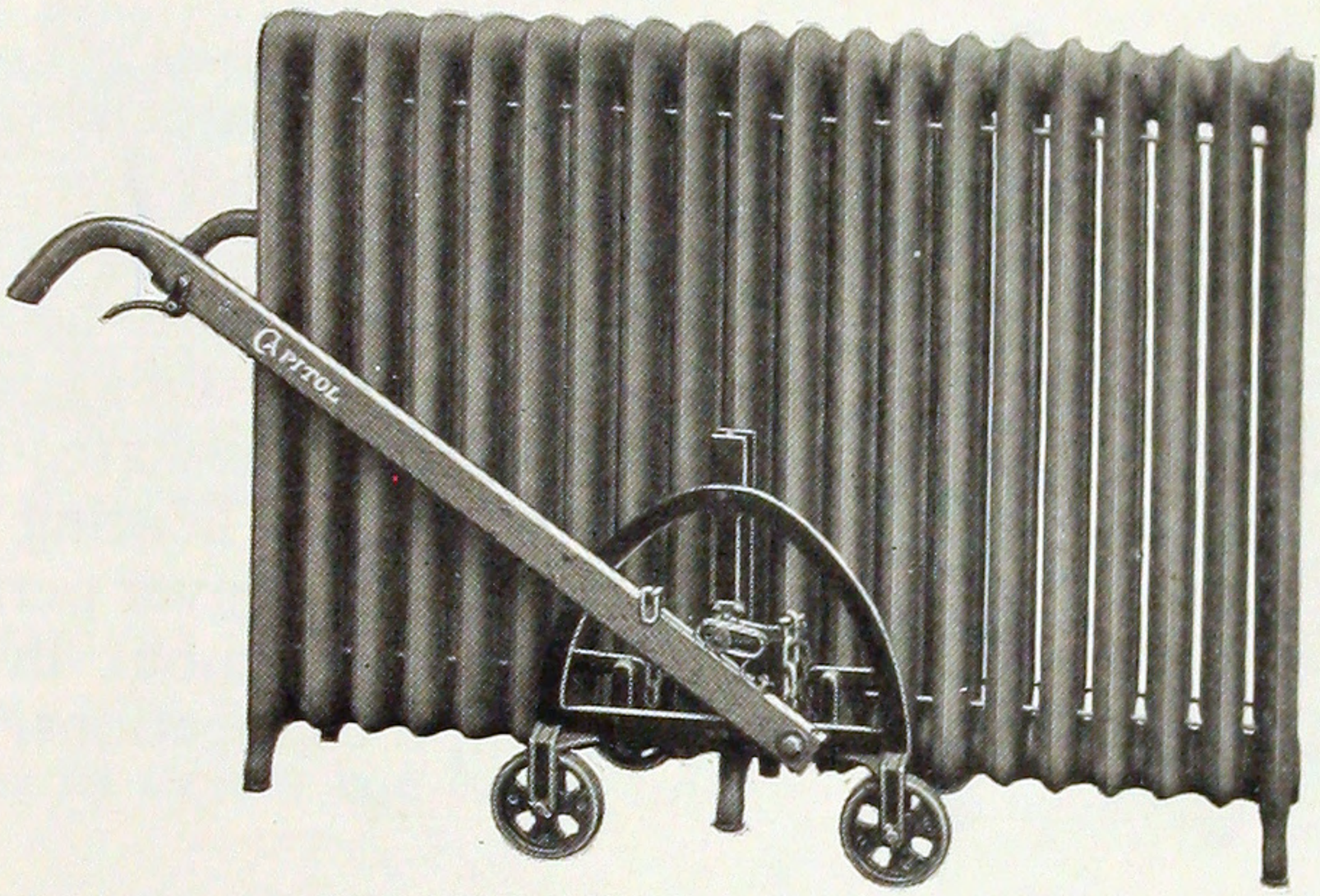
1 Vacuum Breaking Valve for automatically charging Tank with air

### 1, 2 or 3 story Buildings

| No. | Capacity | List |
|---|---|---|
| 18 | Up to 500 feet Radiation with 18-Gallon Tank | $48.00 |
| 24 | 500 to 800 feet Radiation with 24-Gallon Tank | 50.00 |
| 30 | 800 to 1200 feet Radiation with 30-Gallon Tank | 56.00 |
| 35 | 1200 to 1600 feet Radiation with 35-Gallon Tank | 64.00 |
| 40 | 1600 to 2000 feet Radiation with 40-Gallon Tank | 76.00 |

Special prices quoted for buildings containing more than 2000 square feet of radiation or over 3 story buildings.

# CAPITOL RADIATOR TRUCKS

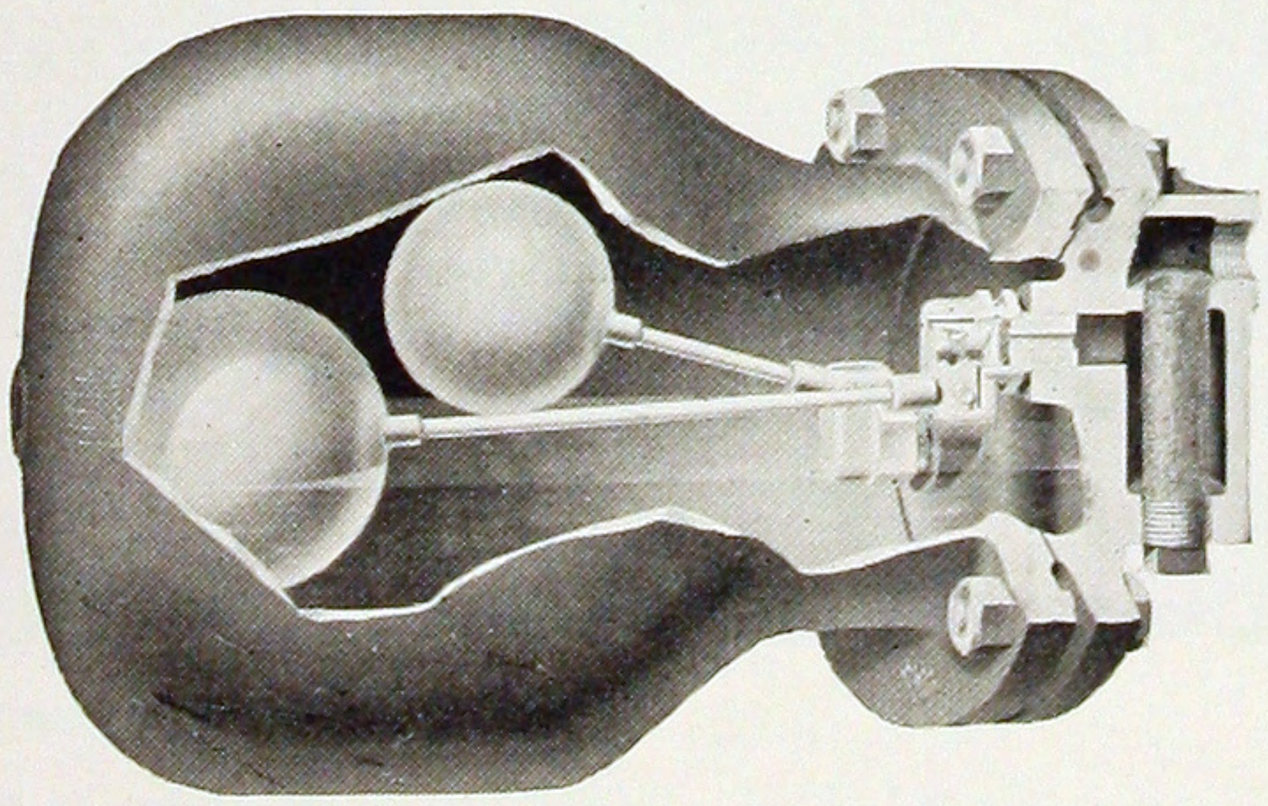



No. 60

***Capitol Radiator Trucks*** make an easy task of moving clumsy radiators. Built for durability of malleable iron, with oak handles. Supplied with either plain iron or rubber-tired wheels.

Weight 76 pounds. List price.....$50.00

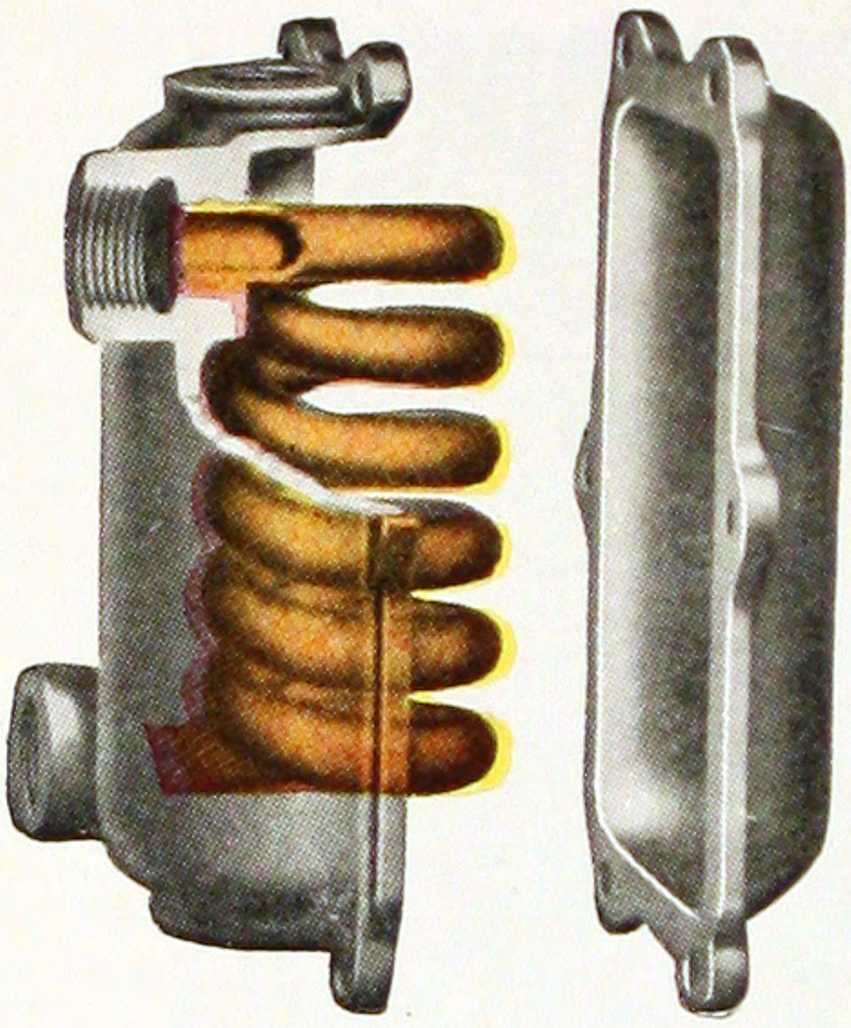
## McDonnell & Miller Duplex Water Feeder



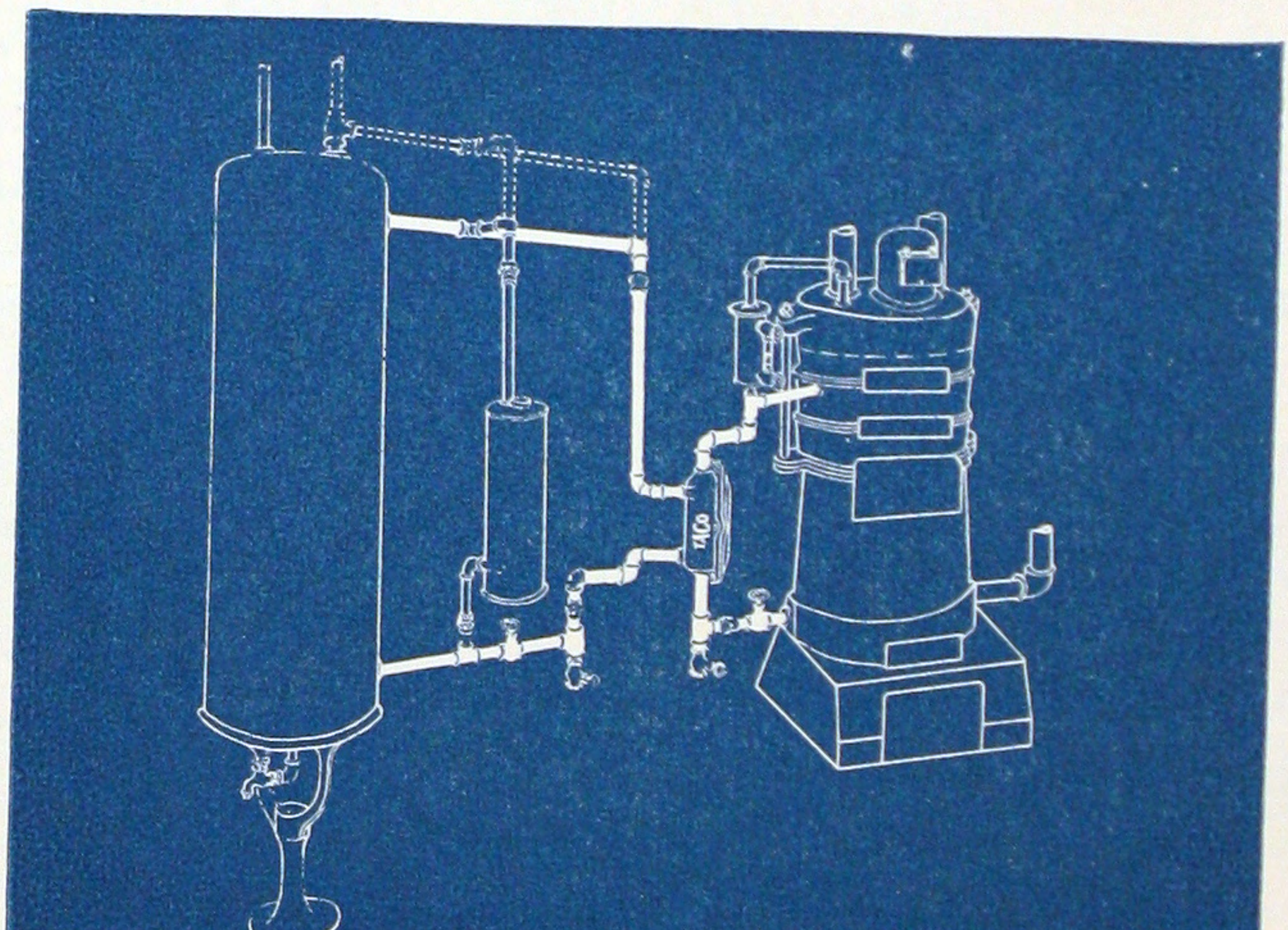
No. 63

***McDonnell & Miller Duplex Water Feeder*** will dependably control the water line in *any* low pressure steam boiler, whether oil, gas, or coal is used for fuel. They prevent burned boilers and cracked sections due to low water and on the other hand, eliminate the inconvenience of cold rooms resulting from a flooded boiler. Capacity up to 20,000 square feet of radiation.

Shipping weight, 50 lbs. List.....$50.00



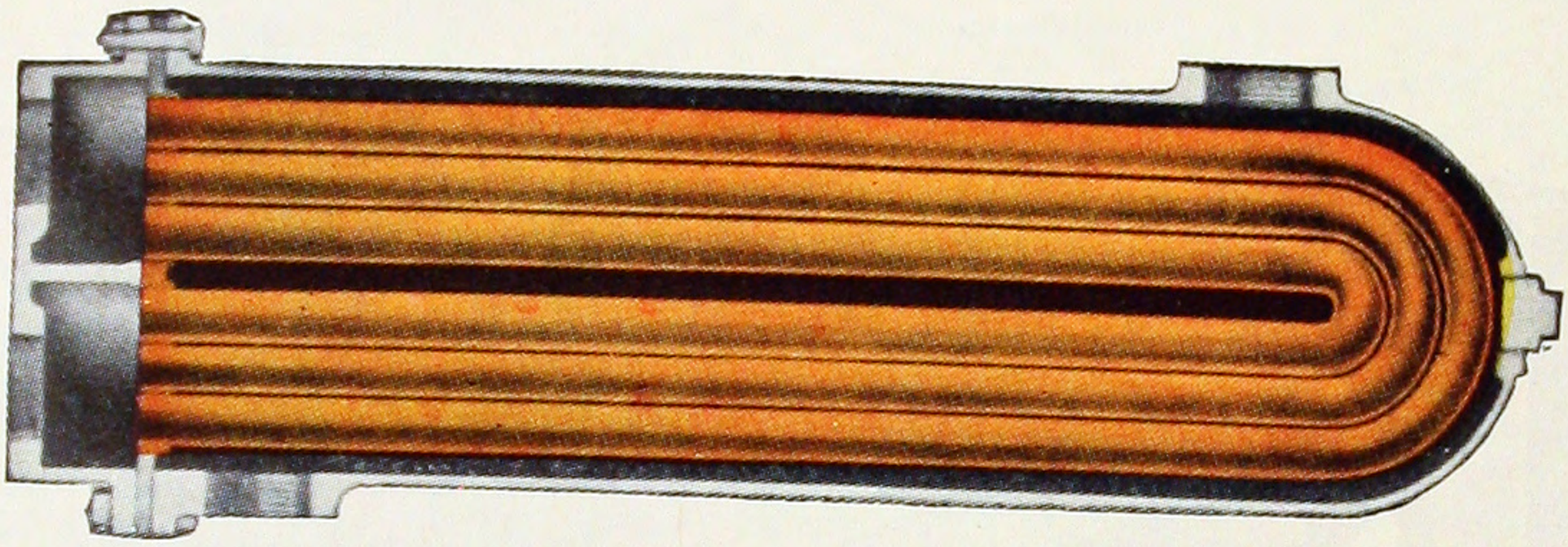
Domestic Taco Water Heaters No. 0, 30, 1, 2 and 3 are for connection below the water line of steam house-heating boiler, and will give a satisfactory domestic hot water supply for the entire heating season. Removable cover permits easy cleaning without breaking any pipe connections.



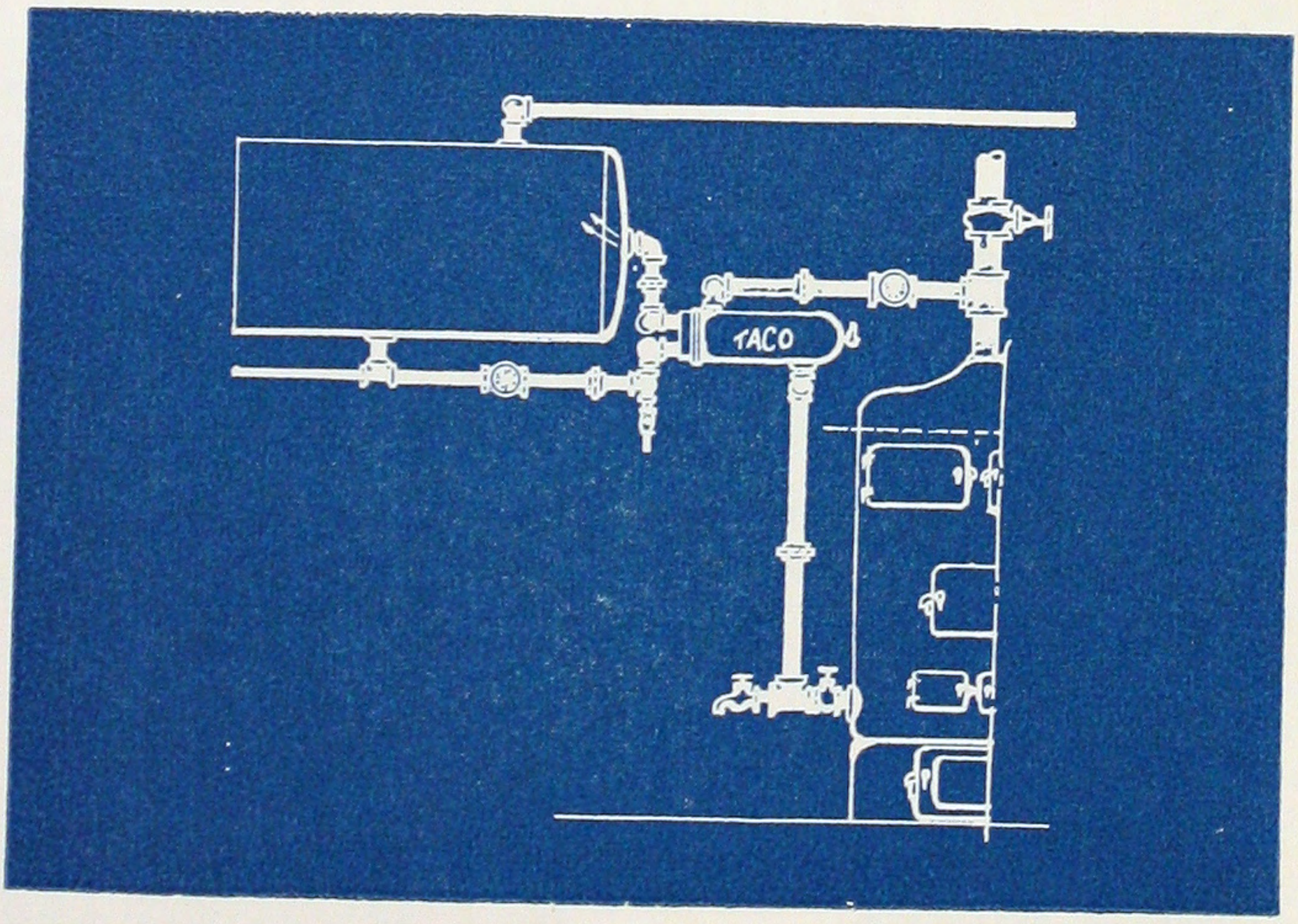
| No. | Capacity Gallons* | | Height, In. | Diameter, In. | Tank Connections, In. | Boiler Connections, In. | Shipping Weight, Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| | Below Water Line | With Live Steam | | | | | | |
| 0 | 30 | ... | 8 1/4 | 4 1/2 | 3/4 | 1 | 9 | $10.00 |
| 30 | 30 | 50 | 9 11/16 | 5 7/16 | 3/4 | 1 | 11 | 15.00 |
| 1 | 40-60 | 75 | 11 11/16 | 5 7/16 | 3/4 | 1 | 14 | 20.00 |
| 2 | 80-120 | 150 | 13 1/2 | 6 15/16 | 1 | 1 1/4 | 24 | 30.00 |
| 3 | 160-200 | 300 | 19 1/16 | 8 1/16 | 1 1/4 | 2 | 52 | 50.00 |

*Ratings based on 100° temperature rise in three hours.

# APARTMENT TACO WATER HEATERS



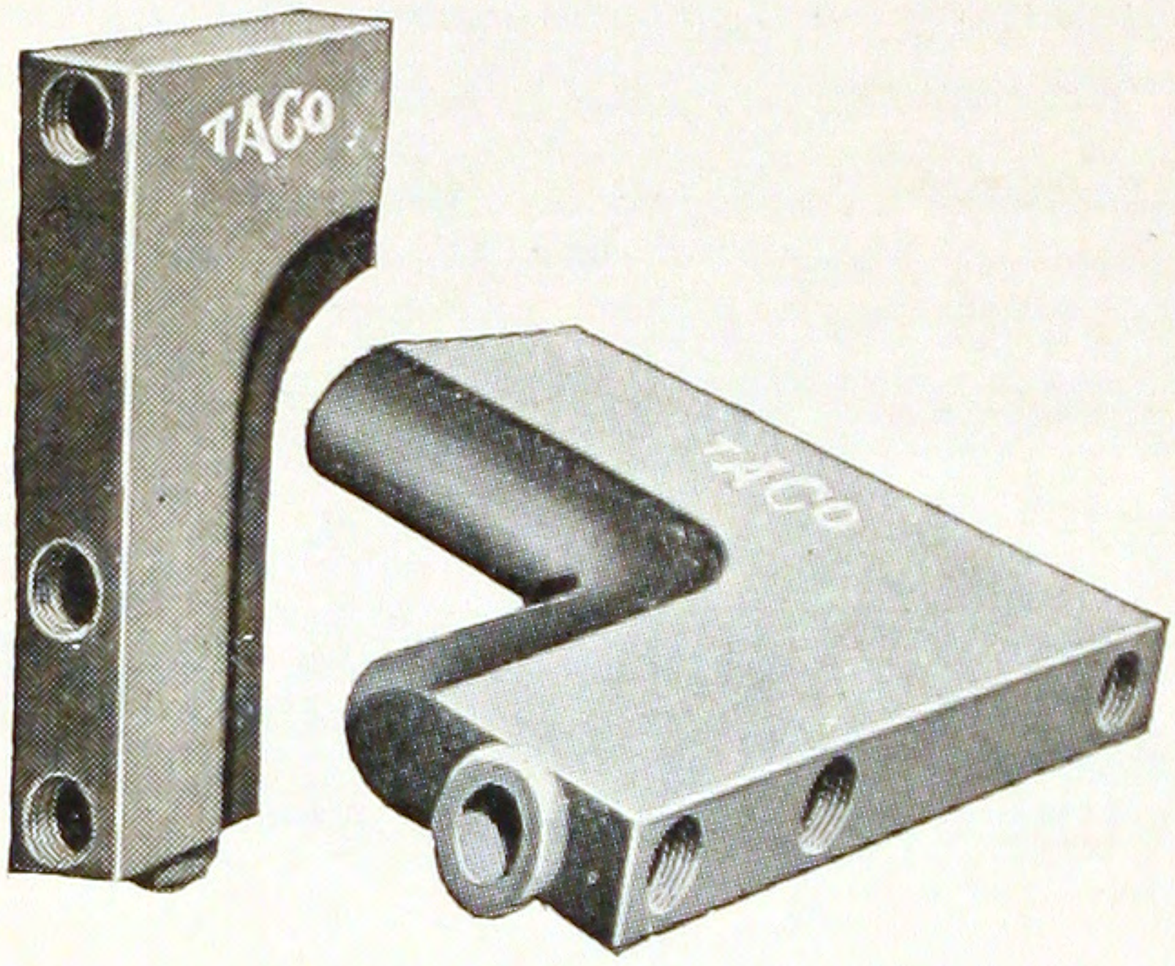
Apartment Taco Water Heaters Nos. 4, 5, and 6. Copper tubes, cast iron housing and head. To be connected either above or below the water line of steam heating boiler.



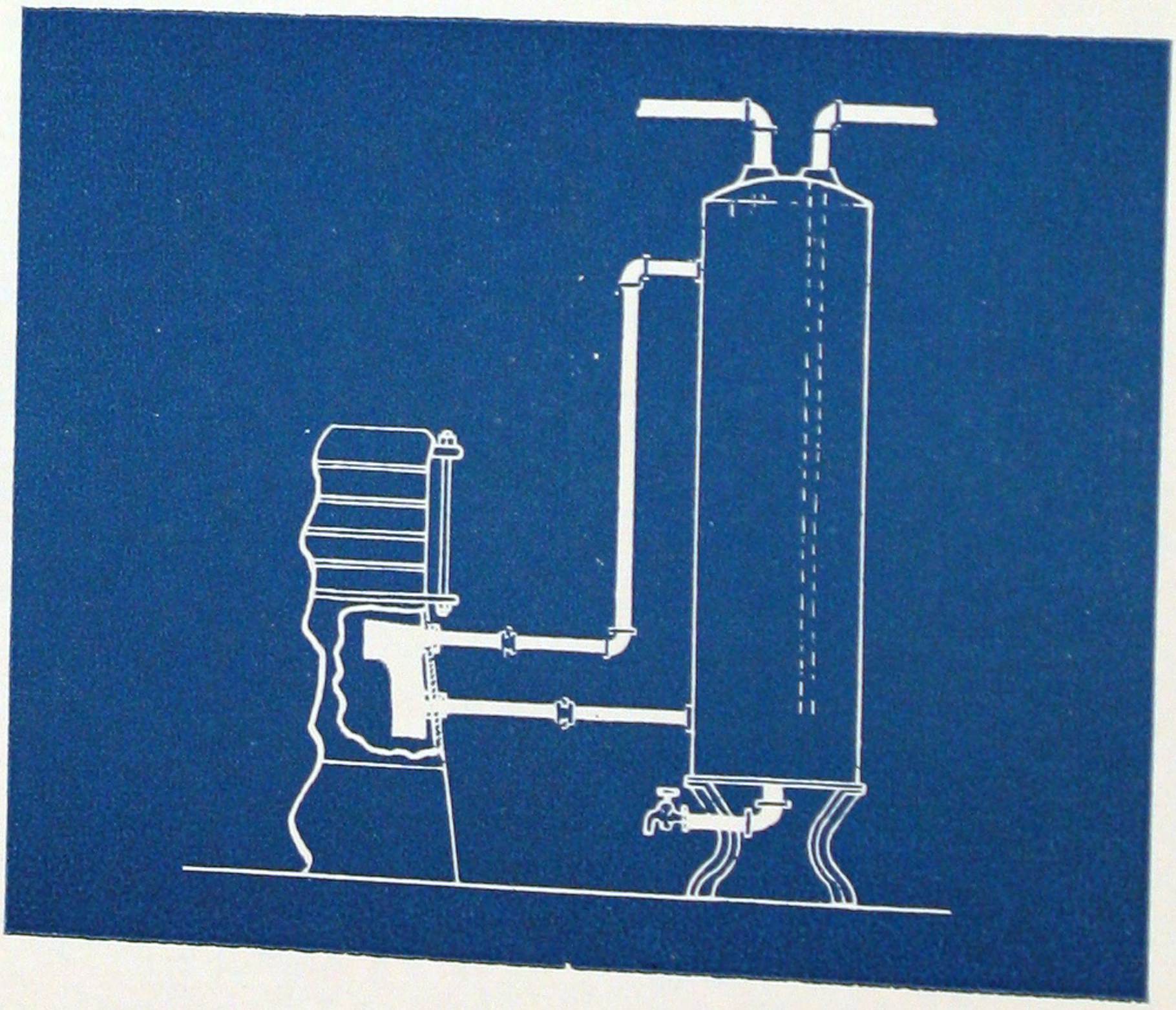

Typical installation of Apartment Taco above water line of steam heating boiler.

| No. | Capacity, Gallons* | | Sq. Ft. Hot Water Radiation | Diameter, In. | Tank Connections, In. | Boiler Connections, In. | Shipping Weight, Lbs. | List Price |
|---|---|---|---|---|---|---|---|---|
| | Below Water Line | With Live Steam | | | | | | |
| 4 | 320 | 600 | 240 | 8 | 2 | 2 | 85 | $100.00 |
| 5 | 640 | 1200 | 480 | 11 ¾ | 2 ½ | 2 ½ | 195 | 200.00 |
| 6 | 960 | 1800 | 750 | 13 ½ | 3 | 3 | 265 | 300.00 |

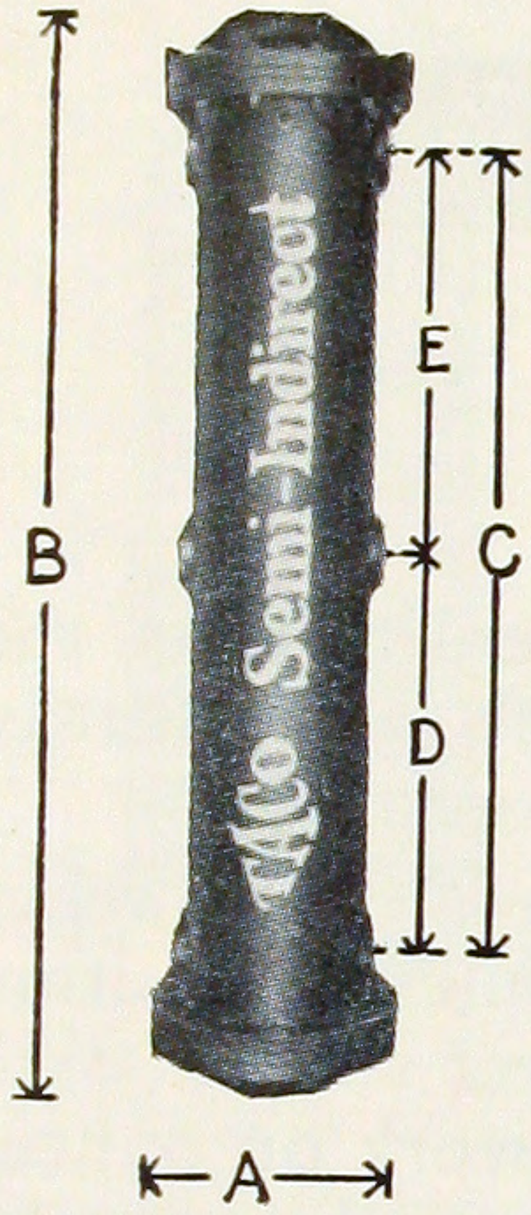
*Ratings based on 100° temperature rise in three hours.



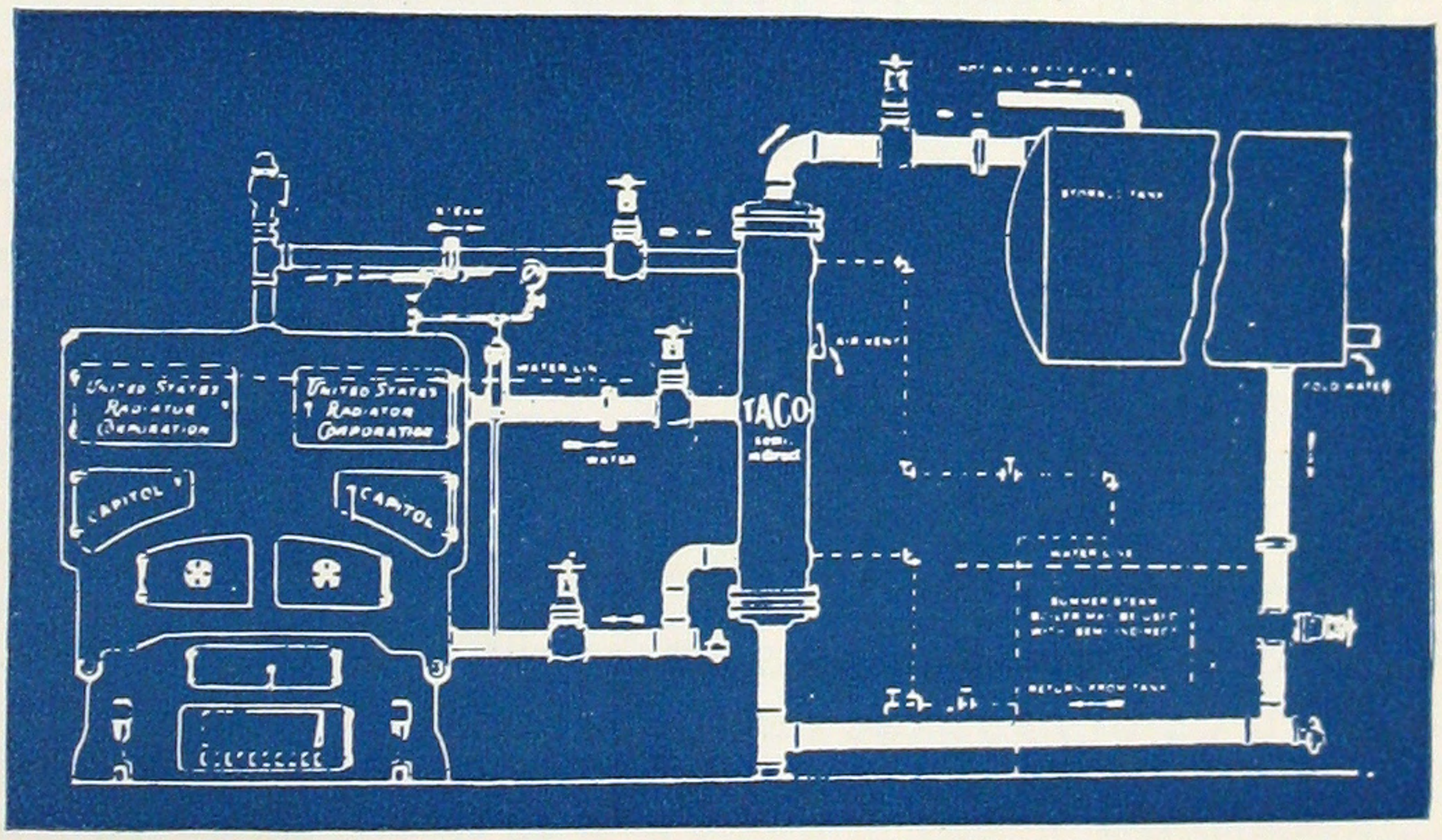

UNIVERSAL Taco Water Heaters are for use in the fire pot of round hot water heating boilers. Fit against the fire pot wall, and have no fins or projections to catch ashes or clinker up.



| Size | Center to Center Inches | Tank Capacity Gallons | Shipping Weight Pounds | Iron | Brass |
|---|---|---|---|---|---|
| | | | | List | List |
| 6-9-30 | 6 or 9 | 30 | 10 | $ 8.00 | $20.00 |
| 6-9-60 | 6 or 9 | 60 | 17 | 14.00 | 35.00 |



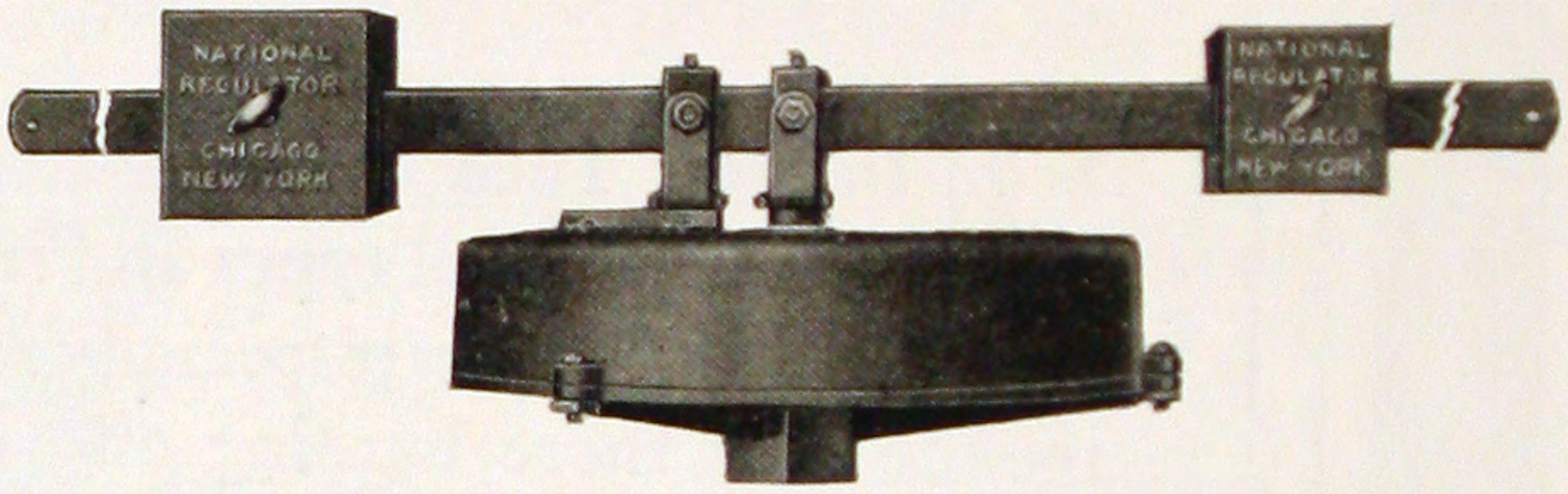

Semi-Indirect Taco Water Heaters are for attachment to all types and sizes of steam heating boilers; especially recommended for those burning oil as fuel. In addition to the two connections below the water line, it has an extra connection above the water line admitting steam to a portion of the heater, for the purpose of quick heating.




| No. | Capacity Gallons | | A | B | E or D | C | Tank Connections Top & Bottom | Boiler Connections (6) | Shipping Wt. Lbs. | No. of Families | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Without Steam | With Steam | | | | | | | | | |
| 7 | 25 | 50 | 4″ | 56″ | 21″ | 42″ | 1½″ | 1½″ | 80 | 1–3 | $ 50 |
| 8 | 50 | 100 | 5″ | 56″ | 21″ | 42″ | 1½″ | 1½″ | 110 | 5 | 75 |
| 10 | 100 | 200 | 6″ | 56″ | 21″ | 42″ | 2″ | 2″ | 140 | 10 | 100 |
| 15 | 150 | 300 | 10″ | 56″ | 21″ | 42″ | 2″ | 2″ | 250 | 15 | 150 |
| 25 | 250 | 600 | 12½″ | 56″ | 21″ | 42″ | 3″ | 2½″ | 375 | 25 | 250 |
| 50 | 500 | 1000 | 17″ | 80″ | 30″ | 60″ | 4″ | 3″ | 820 | 50 | 500 |
| 75 | 750 | 1500 | 19″ | 82″ | 30″ | 60″ | 5″ | 4″ | 1050 | 75 | 750 |
| 100 | 1000 | 2000 | 21″ | 84″ | 30″ | 60″ | 6″ | 5″ | 1250 | 100 | 1000 |

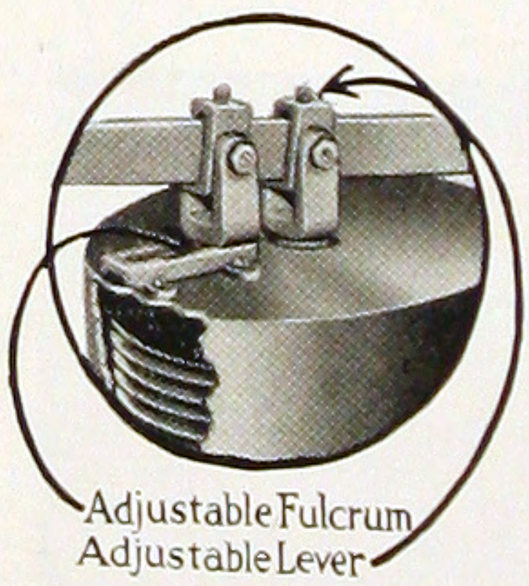
Capacity is stated in gallons heated 80 degrees per hour.
NOTE:—Shell tested 60 lbs. Tube section tested 300 lbs. pressure.

# METAPHRAM DAMPER REGULATORS




IT is remarkable that any device as sensitive as the Metaphram Damper Regulator can yet be so sturdy and powerful. All metal, dustproof, and compact.

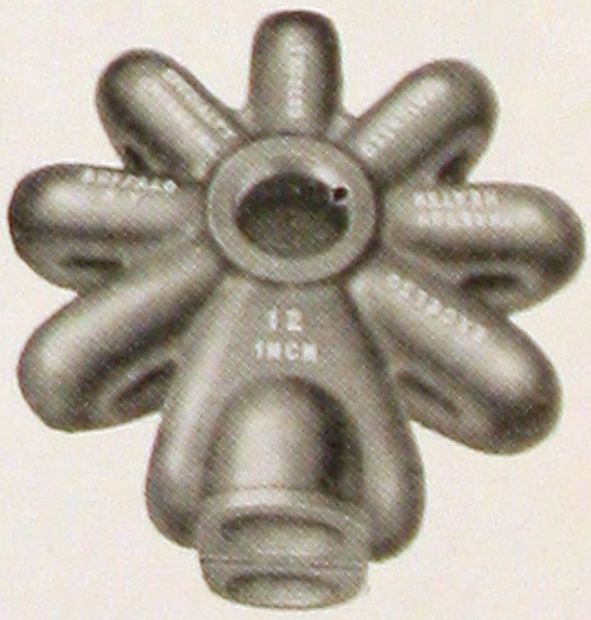
A special universal adjustment feature makes this regulator adaptable for pressure or vapor. The fulcrum position is easily changed, and the weights and lever shifted. Will fit any style low pressure boiler and will work on ounces from zero up to, and not exceeding, fifteen pounds pressure.


Adjustable Fulcrum
Adjustable Lever

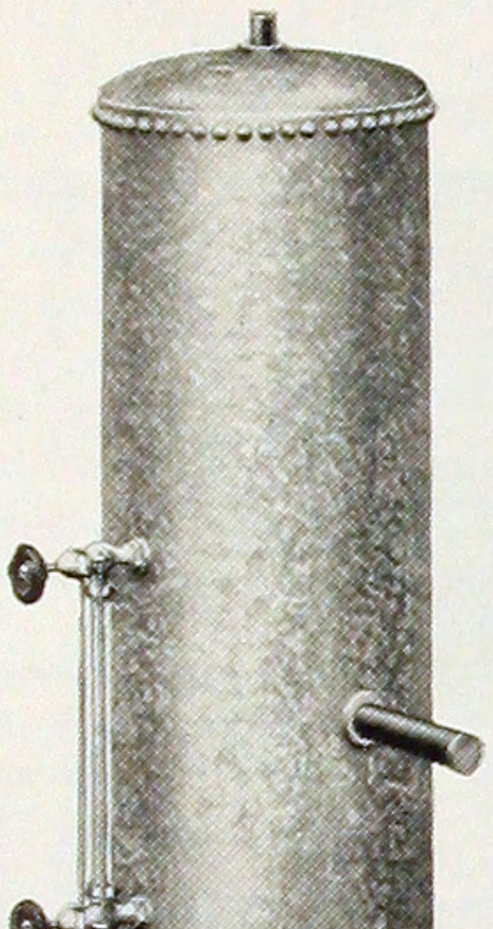
No. A-4″. For low pressure. . . . . List Price $15.00
Boiler connection, ½″ male. Shipping wt., 15 lbs.
No. B-5 ½″. For low pressure. . . . . List Price $18.00
Boiler connection, ½″ female. Shipping wt., 20 lbs.
No. C-7″. For low pressure, Vacuum or Vapor. . . . List Price $20.00
Boiler connection, 1″ female. Shipping wt., 35 lbs.
No. D-10″. For Vapor or Vacuum. . . . List Price $27.00
Boiler connection, 1″ female. Shipping wt., 55 lbs.
Nos. A-4″, B-5 ½″ and C-7″ regulators are equipped with lever, weights, chains and pulleys.
No. D-10″ regulator is equipped with lever, weights, two bell cranks and chain.
The adjustable fulcrum feature applies to C-7″ and D-10″ regulators only. The B-5 ½″ regulator has offset fulcrum.

## Excelso Phaeton Heater

THESE auxiliary heating sections are used to heat the domestic hot water supply, to heat auxiliary radiators or to do both. They are placed in the furnace or hot water boiler, above and out of the way of the fire. Side and top and bottom tappings come with each size.



| Size Diameter in Inches | Height in Inches | Size of Tappings | Center to Center of Side Outlets | Gallons of Tank Capacity | Sq. Ft. of Direct Water Radiation | Approx. Shipping Weight | List Price IRON | List Price BRASS |
|---|---|---|---|---|---|---|---|---|
| 6 | 3 ½ | 1 | 2 ½ | 30 | 40 | 6 | $ 7.50 | $ 15.00 |
| 8 | 4 ½ | 1 | 2 ½ | 45 | 75 | 11 | 12.00 | 28.00 |
| 10 | 5 ¼ | 1 ½ | 3 | 80 | 100 | 18 | 20.00 | 45.00 |
| 12 | 6 | 2 | 3 ½ | 100 | 150 | 30 | 24.00 | 54.00 |
| 15 | 7 | 2 ½ | 4 ½ | 150 | 250 | 60 | 50.00 | 115.00 |
| 18 | 8 | 3 | 5 ½ | 250 | 400 | 85 | 70.00 | 160.00 |



No. 15

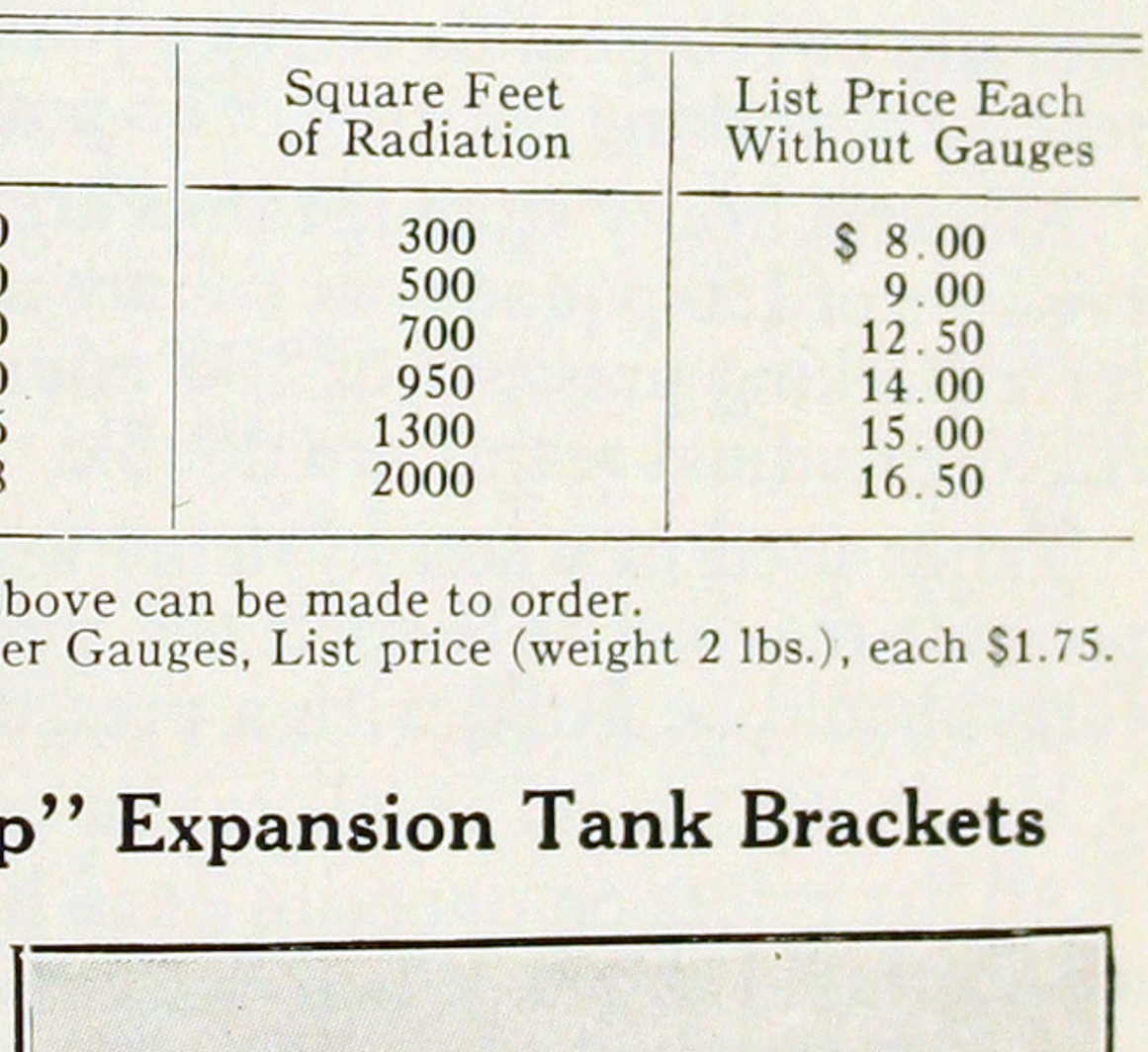
MADE from a superior grade of heavy boiler steel, riveted and thickly galvanized, Capitol Expansion Tanks cannot be compared with short-lived light and flimsy tanks. Tapped at top for 1 inch overflow pipe; at bottom for 1 inch expansion pipe; at side for water supply. Water gauge tappings, ½-inch—13½ inches between centers.

| Capacity Gallons | Size Inches | Square Feet of Radiation | List Price Each Without Gauges |
|---|---|---|---|
| 10 | 12 x 20 | 300 | $ 8.00 |
| 15 | 12 x 30 | 500 | 9.00 |
| 20 | 14 x 30 | 700 | 12.50 |
| 26 | 16 x 30 | 950 | 14.00 |
| 32 | 16 x 36 | 1300 | 15.00 |
| 42 | 16 x 48 | 2000 | 16.50 |

Expansion Tanks other than above can be made to order.
No. 16—Expansion Tank Water Gauges, List price (weight 2 lbs.), each $1.75.

## Capitol "Sure Grip" Expansion Tank Brackets

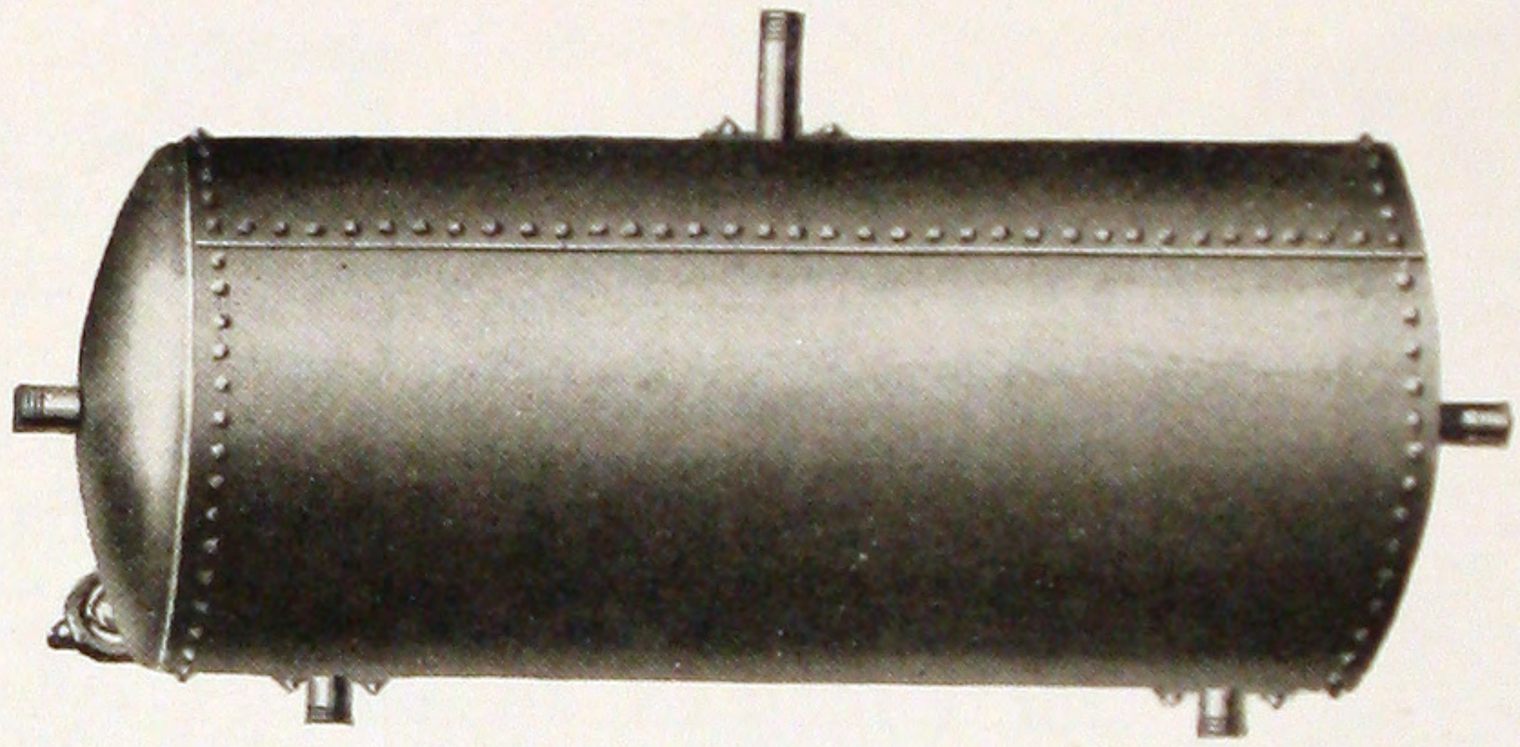
SUPPORTS expansion tanks in hot-water heating systems, or range boilers, securely. To be screwed into stud line on wall. A simple turn of the nut releases the grip clamp. The tank edge is then slipped in and the nut, when tightened, anchors it firm y. A special set is provided under the clamp for electrically welded tanks *only*. If you are using riveted tanks unscrew it and throw it away.




No. 18

List price..... $1.50

# STEEL STORAGE TANKS



A HORIZONTAL type is illustrated showing location of regular tappings. The size and style of tapping can be varied to meet all special requirements.

All standard, storage tanks are tested to a hydrostatic pressure of 100 pounds to the square inch and are guaranteed for a working pressure of 65 pounds to the square inch.

All extra heavy storage tanks are tested to a hydrostatic pressure of 150 pounds per square inch and are guaranteed for a working pressure of 100 pounds to the square inch. All longitudinal seams are double riveted.

Tanks used in water systems where sudden or unusual pressure may occur beyond the guaranteed working pressures should be fitted with a pressure reducing valve.

Heads are placed in all tanks convex and concave.

All list prices on opposite page include regular tappings as illustrated above. When ordering, state whether vertical or horizontal tanks are required. Unless otherwise specified, tanks without coils, manholes, or handholes will be shipped. Orders for tanks of special construction, or fitted with coils, are not subject to cancellation.

## List Prices

Manholes, Handholes and Extra Flanged Openings

| | |
|---|---|
| 2 inch Flange, each | $8.00 |
| 2½ inch Flange, each | 8.00 |
| 3 inch Flange, each | 9.00 |
| 3½ inch Flange, each | 9.00 |
| 4 inch Flange, each | 10.00 |

| | |
|---|---|
| Manholes in head, each | $30.00 |
| Manholes in shell, each | 45.00 |
| Handholes in head, each | 8.00 |
| Handholes in shell, each | 8.00 |

Tank supports for horizontal or vertical tanks quoted on application.

It is advisable to have a manhole in head of all tanks containing coils. It should be remembered when figuring. Quotations will upon application be promptly furnished on styles and sizes of coils other than above.

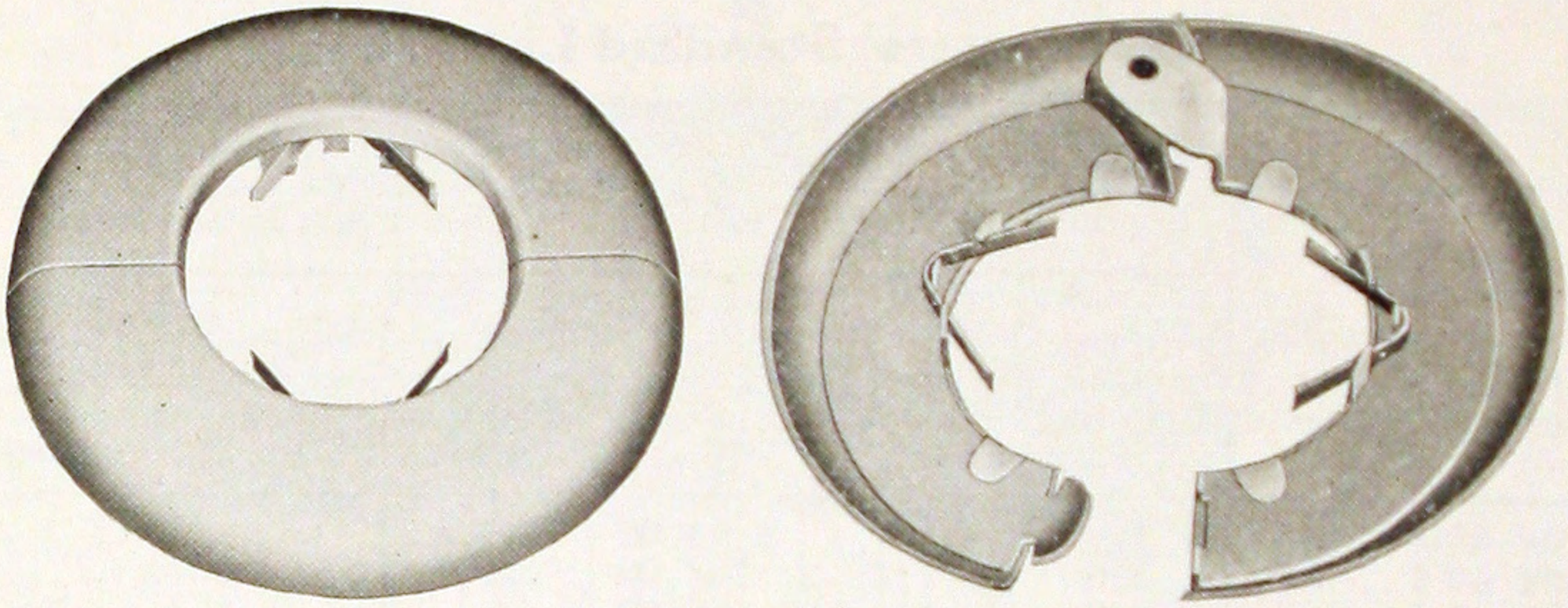
## Manufacturers' Standard List Prices

| Size Inches | Capacity Gallons | Standard Shell 3/16"; Heads 1/4" | | | Extra Heavy Shell 1/4"; Heads 5/16" | | |
|---|---|---|---|---|---|---|---|
| | | Approximate Shipping Weight | Regular Openings Inches | List Price Black and Galvanized | Approximate Shipping Weight | Regular Openings Inches | List Price Black and Galvanized |
| 20x 48 | 66 | 270 | 1 1/2 | $ 94.00 | .... | ... | ..... |
| 20x 60 | 85 | 310 | 1 1/2 | 104.00 | .... | ... | ..... |
| 24x 48 | 100 | 320 | 1 1/2 | 109.00 | .... | ... | ..... |
| 24x 60 | 120 | 380 | 1 1/2 | 123.00 | 390 | 1 1/2 | $137.00 |
| 24x 72 | 140 | 440 | 1 1/2 | 134.00 | 440 | 1 1/2 | 155.00 |
| 30x 48 | 150 | 430 | 2 | 143.00 | .... | ... | ..... |
| 30x 60 | 180 | 500 | 2 | 158.00 | 520 | 2 | 182.00 |
| 30x 72 | 220 | 555 | 2 | 173.00 | 590 | 2 | 198.00 |
| 30x 84 | 250 | 630 | 2 | 196.00 | 660 | 2 | 224.00 |
| 30x 96 | 295 | 700 | 2 | 211.00 | 720 | 2 | 242.00 |
| 36x 72 | 315 | 700 | 2 | 206.00 | 920 | 2 | 264.00 |
| 36x 84 | 365 | 780 | 2 | 241.00 | 1030 | 2 | 300.00 |
| 36x 96 | 420 | 870 | 2 | 256.00 | 1160 | 2 | 328.00 |
| 36x120 | 525 | 1030 | 2 | 293.00 | 1380 | 2 | 385.00 |
| 42x 72 | 430 | 890 | 2 | 276.00 | 1140 | 2 | 345.00 |
| 42x 84 | 500 | 980 | 2 | 310.00 | 1260 | 2 | 390.00 |
| 42x 96 | 575 | 1070 | 2 | 333.00 | 1400 | 2 | 420.00 |
| 42x120 | 720 | 1250 | 2 | 375.00 | 1660 | 2 | 480.00 |
| 42x144 | 865 | 1430 | 2 | 415.00 | 1910 | 2 | 540.00 |
| 42x168 | 1000 | 1620 | 2 | 468.00 | 2180 | 2 | 614.00 |
| 48x 96 | 750 | .... | ... | ..... | 1690 | 3 | 510.00 |
| 48x120 | 940 | .... | ... | ..... | 1960 | 3 | 580.00 |
| 48x144 | 1130 | .... | ... | ..... | 2250 | 3 | 650.00 |
| 48x168 | 1300 | .... | ... | ..... | 2570 | 3 | 715.00 |
| 48x192 | 1500 | .... | ... | ..... | 2860 | 3 | 800.00 |
| 48x216 | 1700 | .... | ... | ..... | 3150 | 3 | 870.00 |

## Coils for Storage Tanks

A standard coil is one constructed of Return Bends and made of four pipes. The list prices below provide for placing coil in tank, properly braced and secured.

| Tank Size | Number of Pipes | Size Coil, Inches | Plain Coil | Galvanized Coil | Brass Pipe (I. P. S.) |
|---|---|---|---|---|---|
| 20x 48 | 4 | 1 | $29.00 | $35.00 | Quoted on Application |
| 20x 60 | 4 | 1 | 30.50 | 38.50 | |
| 24x 48 | 4 | 1 1/4 | 35.50 | 42.00 | |
| 24x 60 | 4 | 1 1/4 | 37.00 | 45.00 | |
| 24x 72 | 4 | 1 1/4 | 38.50 | 48.00 | |
| 30x 48 | 4 | 1 1/4 | 35.50 | 42.00 | |
| 30x 60 | 4 | 1 1/4 | 37.00 | 45.00 | |
| 30x 72 | 4 | 1 1/4 | 38.50 | 48.00 | |
| 30x 84 | 4 | 1 1/4 | 40.00 | 51.00 | |
| 30x 96 | 4 | 1 1/4 | 41.50 | 54.00 | |
| 36x 72 | 4 | 1 1/2 | 51.00 | 62.00 | |
| 36x 84 | 4 | 1 1/2 | 54.00 | 66.00 | |
| 36x 96 | 4 | 1 1/2 | 57.50 | 70.00 | |
| 36x120 | 4 | 1 1/2 | 64.00 | 78.00 | |
| 42x 72 | 4 | 1 1/2 | 51.00 | 62.00 | |
| 42x 84 | 4 | 1 1/2 | 54.50 | 66.00 | |
| 42x 96 | 4 | 1 1/2 | 57.50 | 70.00 | |
| 42x120 | 4 | 1 1/2 | 64.00 | 78.00 | |
| 42x144 | 4 | 1 1/2 | 70.50 | 85.00 | |
| 42x168 | 4 | 1 1/2 | 77.00 | 93.00 | |

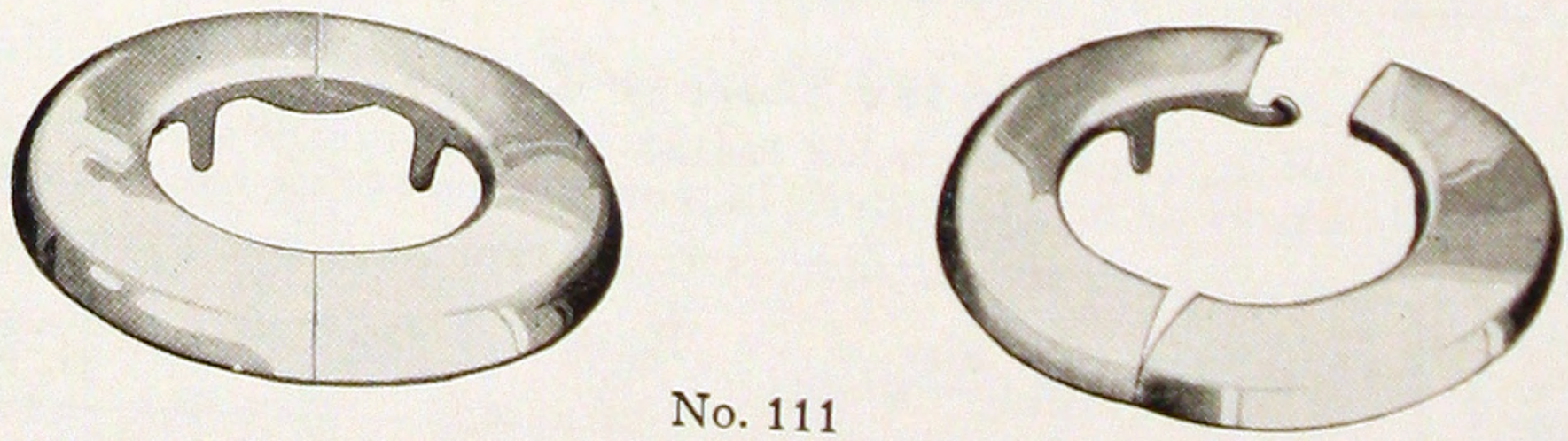


No. 110

THE Capitol Floor and Ceiling Plate is unsurpassed for strength and attractiveness. Of heavy cold rolled steel, copper plated before nickeling and highly polished. Easily opened and closed on pipe where steel springs hold it firmly in place and a concealed hinge locks it securely. May be sheared to fit irregular installations.

**List Prices**

| For Pipe..... | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nickeled, each | $0.26 | $0.27 | $0.28 | $0.32 | $0.35 | $0.38 | $0.45 | $0.65 | $0.80 | $1.00 | $1.25 |
| Black, each... | .15 | .16 | .17 | .20 | .22 | .25 | .30 | .50 | .65 | .80 | 1.00 |
| Weight per doz. Boxed (lbs.). | 3/4 | 1 | 1 | 1 1/2 | 1 3/4 | 2 | 2 1/4 | 2 3/4 | 3 1/4 | 4 | 4 1/2 |



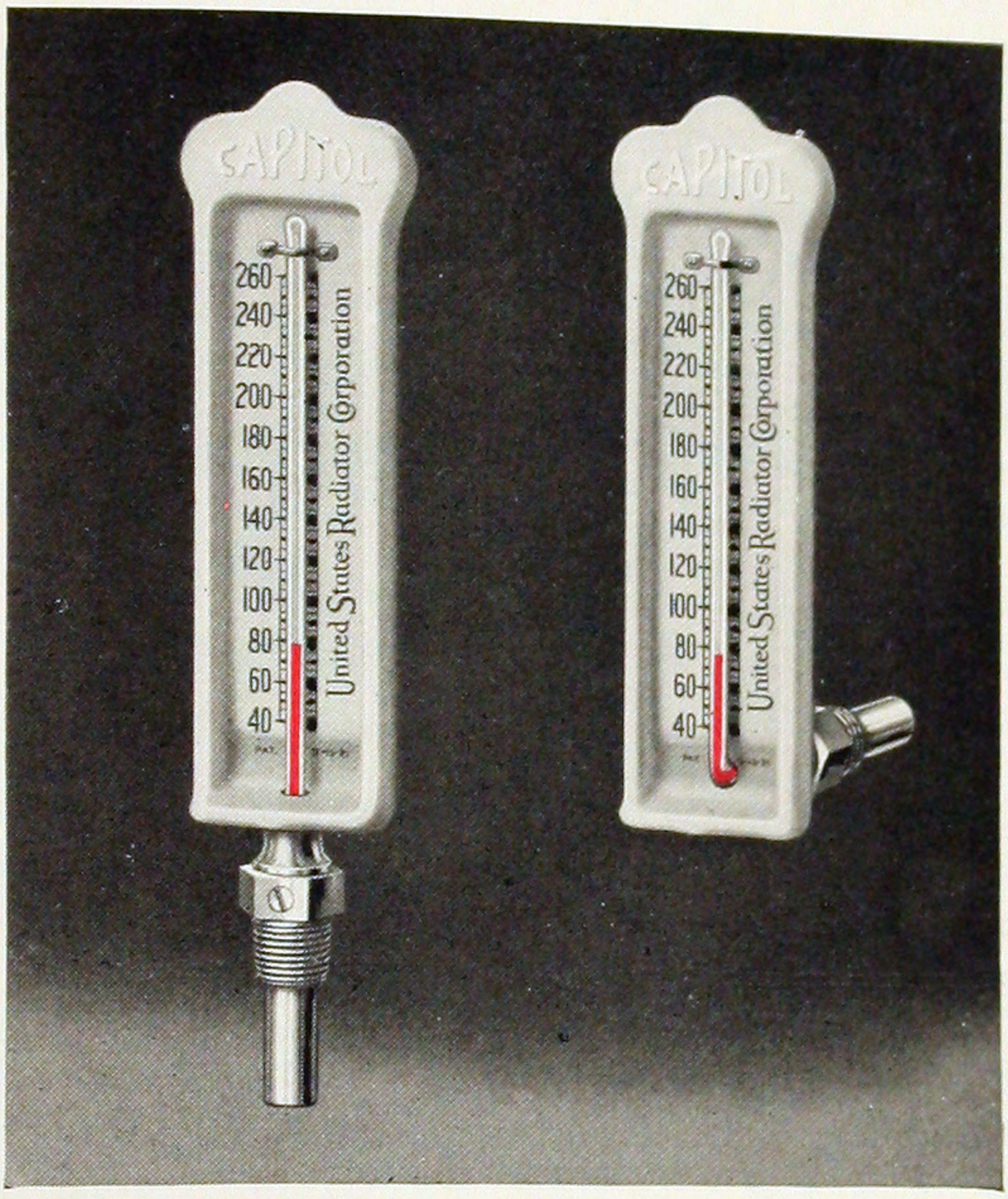
No. 111

THE Triton Floor and Ceiling Plate is exceptionally simple, beautiful, and durable. Stamped from one piece of cold rolled steel, coppered, then nickeled and buffed to a mirror-like surface. Easily opened or closed. Four stamped-in jaws grip the pipe securely. On special order can be furnished in any baked enamel finish desired. (See page 44 for colors).

**List Prices**

| For Pipe..... | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" |
|---|---|---|---|---|---|---|---|---|
| Nickeled, each | $0.27 | $0.28 | $0.32 | $0.35 | $0.38 | $0.45 | $0.65 | $0.80 |
| Black, each | .16 | .17 | .20 | .22 | .25 | .30 | .50 | .65 |
| Weight, per doz., Boxed (lbs.) | 3/4 | 3/4 | 1 1/4 | 1 1/2 | 2 | 2 1/4 | 2 1/2 | 3 |

# CAPITOL HOT WATER THERMOMETERS




No. 10 Straight  No. 20 Angle

ON its white enamel background, the red spirit column stands out clearly as it records the hot water temperatures accurately and quickly.

The lower part of the tube is immersed in a mercury bath, assuring accuracy. The case of stamped steel is easily kept clean. Each thermometer must pass a rigid test before it can leave the factory.

In installing, care should be taken to thoroughly immerse the metal tube, which surrounds the glass bulb, in the hot water. If face does not set in the correct position when screwed in, it may be easily adjusted by merely loosening the set screw on the tail piece, turn to proper position, then tighten the screw again.

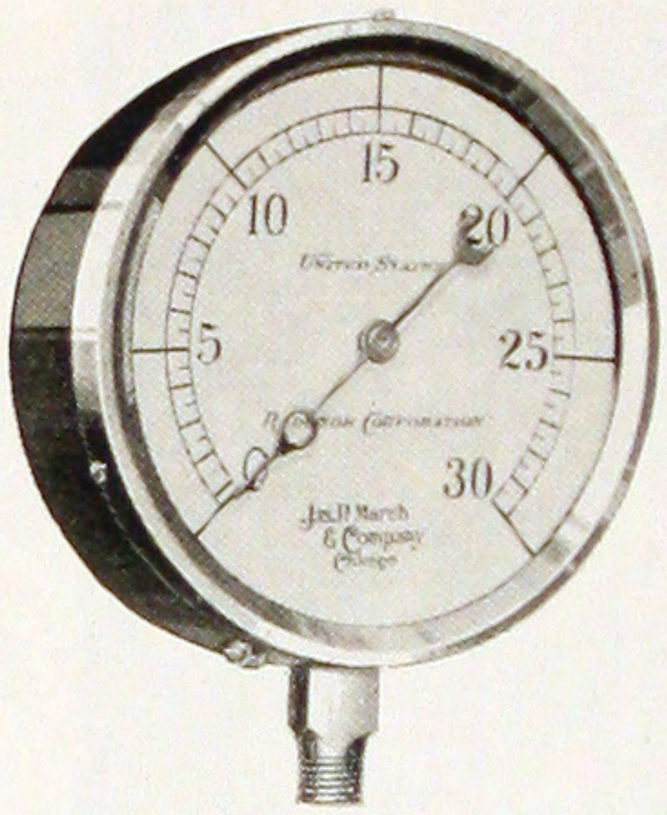
Threaded for ½-inch tapping.

No. 10 Straight. Weight packed, 1¼ lbs. List, each $1.70

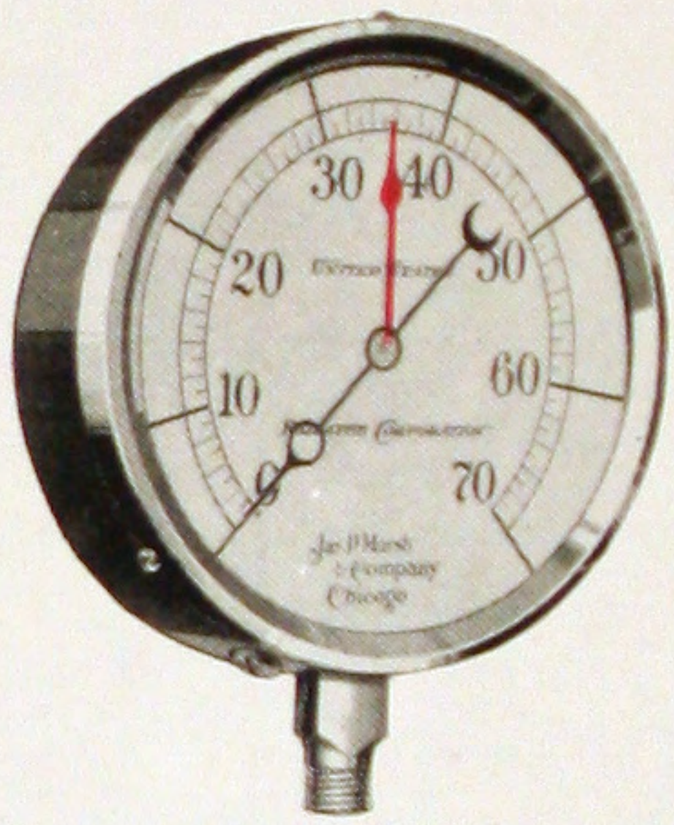
No. 20 Angle. Weight packed, 1¼ lbs. List, each 2.00

Special proposition for supplying stock lots of thermometer with customer's name on face.

# CAPITOL GAUGES




No. 41 Steam




No. 42 Altitude

***No. 41 Steam Gauge*** accurately registers pressure up to 30 pounds. Oven-baked white dial with black non-glare figures. Improved steel case, with brass, polished trimmings. Threaded ¼-inch with square shank for wrench.

*List price each, without cock,* (weight boxed 2 lbs.) 4½-inch, $8.00. 5-inch, $8.00 6-inch, $13.00.

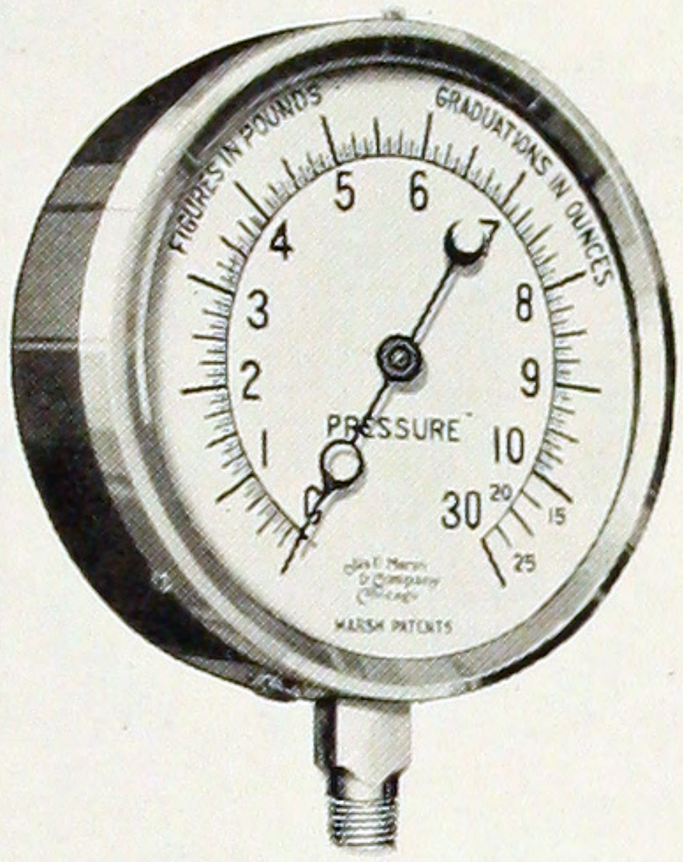
Capitol Gauges can also be supplied for high pressures. (Prices upon application.)

***No. 42 Altitude Gauge*** indicates accurately, at the boiler, the height of water in the system. To set: When the water is at proper level in the expansion tank remove the ring and glass (one turn back of set screws is all that is required) and set the *red* hand at the Altitude indicated by the *black* working hand. Water should be added as soon as the *black* operating hand falls below the *red* hand. 4½-inch oven-baked white dial with non-glare black figures. Improved steel case, with polished nickeled trimmings. Threaded ¼-inch, with square shank.

*List price each, without cock,* (weight boxed 2 lbs.) $12.00.

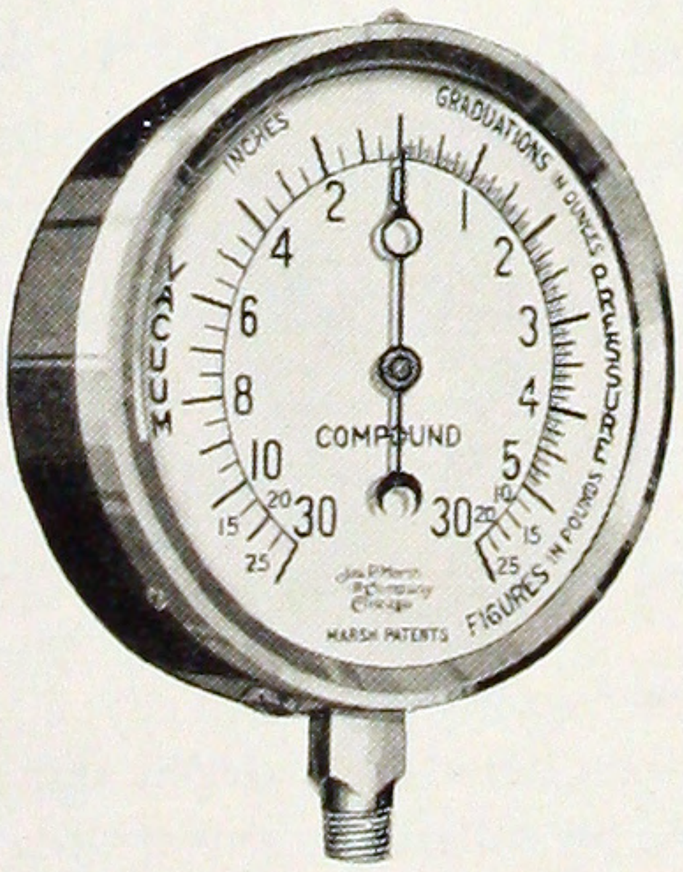
***No. 45 Compound Gauge*** (not illustrated) registers pressure up to 0-15 lbs. and vacuum to 30 inches. Can be supplied also for higher pressures when so specified. 4½-inch white oven-baked dial with black non-glare figures. Improved steel case with polished brass trimmings. Threaded ¼-inch with square shank.

*List price each, without cock,* (weight boxed 2 lbs.) $12.00.




No. 43 Low Pressure

***No. 43 Low Pressure Gauge***—registering in ounce graduations all pressures up to 10 lbs. then with protected and retarded travel from 10 lbs. to 30 lbs. 4½-inch white oven-baked dial with improved non-glare black figures. Mounted in improved steel case with nickeled plated trimmings. Threaded ¼-inch, with square shank for wrench.
*List price each with cock*, (weight boxed 3 lbs.) . . . . $8.00

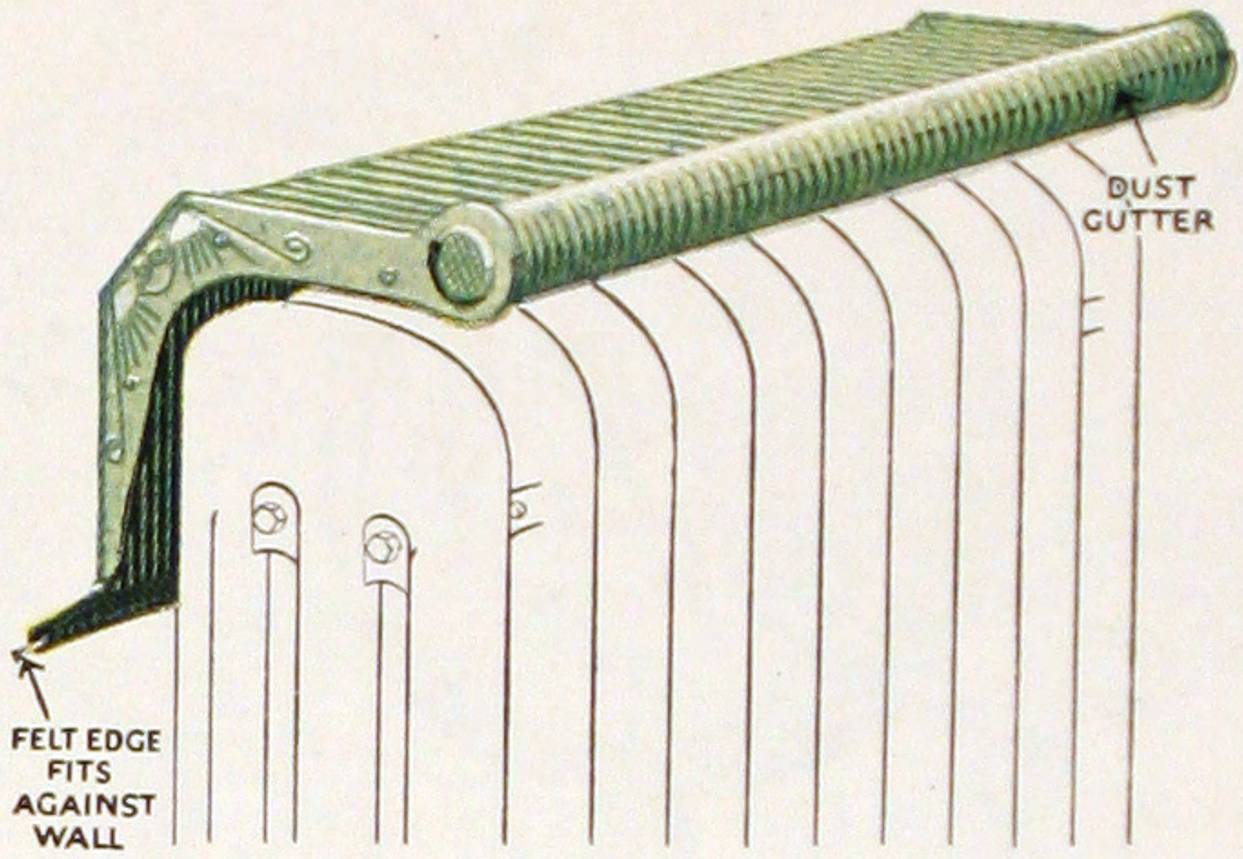



No. 44 Compound

***No. 44 Compound Gauge***—registering pressure in ounce graduations up to 5 lbs., and the degree of vacuum in half inch depths to 10 inches; then with protected and retarded travel—pressure from 5 to 30 lbs. and vacuum from 10 to 30 inches. 4½-inch white oven-baked dial with improved non-glare black figures. Mounted in improved steel case with nickeled plated trimmings. Threaded ¼-inch, with square shank for wrench.
*List price each with cock* (weight boxed 3 lbs.) . . . . $12.00

Special proposition for supplying stock lots of Gauges with customer's name on dial.
NOTE: A siphon should be used with Gauges Nos. 41, 43, 44 and 45.

# HAWKINS RADIATOR SHIELDS




No. 460—Style C

***Hawkins Radiator Shields***—very effective, neat in appearance, can be furnished for any radiator. Five widths properly cover all radiators from three to thirteen inches wide.

The hood and apron of this shield are made of heavy crimped sheet steel with cast iron ends and supports.

The regular apron as illustrated above cannot be cut to properly fit around pipes, window casings, panels or any other uneven surface on wall back of radiator. If the lower felt edge of regular apron cannot be adjusted to a smooth wall, an apron extension will have to be used. This apron extension, which is separate from the shield proper, extends down behind the radiator to within 3 inches of floor. It is held against the back of the radiator by bolts placed between the sections.

## Price List

No. 460 Style C Shields as illustrated above for Radiators any width, 20 inches long and over, undecorated, per inch.....$0.15
Shields for less than 20 inch radiators charged same as 20 inch.
Gold or aluminum bronzing for radiators, any width, 20 inches long or over per inch.....$0.06
Apron Extensions to within 3 inches of floor, for Radiators 20 inches long or over, undecorated, per inch.....$0.10

All shields are made to extend 1½ inches over each end of Radiator, but charge is made only for net length of Radiator.

Crating charged at cost.

In ordering give make or name of Radiators if possible, **Number of Sections** and **Columns** in each **Radiator** and **Distance From Back of Each Radiator to Wall.** If the make of Radiators is not known give separate measurements of each Radiator as follows—**Length** and **Width** and the **Distance from Back of Radiator to Wall.**

Give height of radiators where apron extensions are needed.

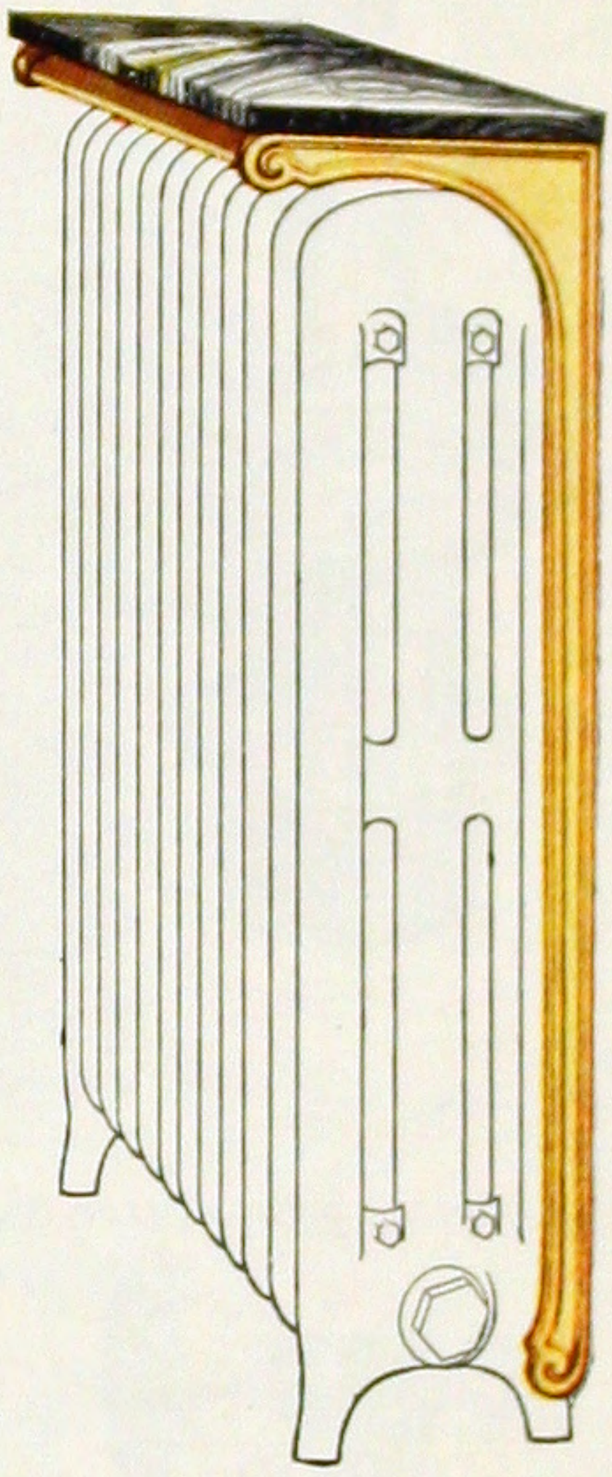
Orders not subject to cancellation.

## Surpassing Beauty in Marble Topped Shields

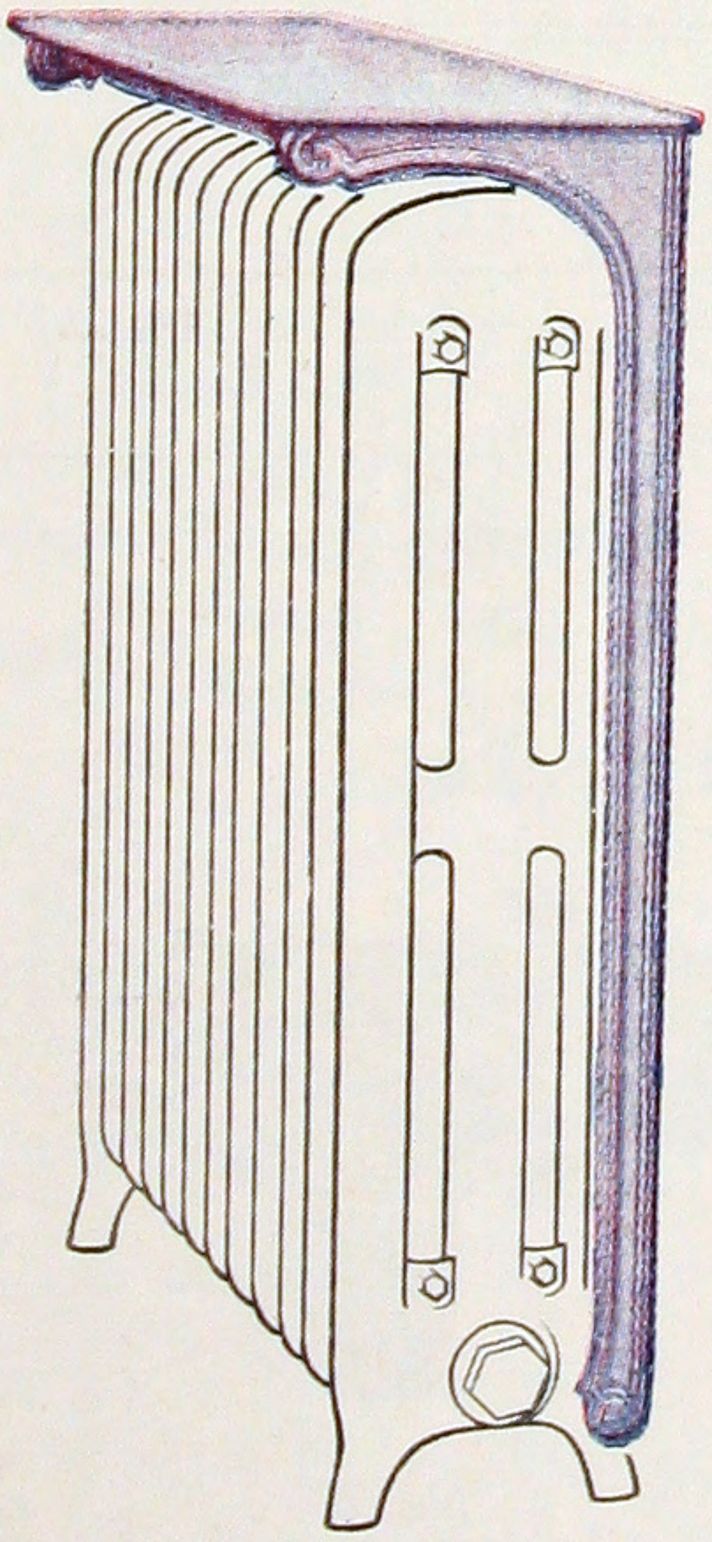
*Capitol Shapco Radiator Shields* are supplied in a choice of marble tops: Tennessee, Georgia, Vermont, Italian, Carthage and Kasota.

Also furnished in Premier Type with tray top edged with polished brass truss into which is fitted Clear Plate Glass, White Carrara Glass, Black Carrara Glass, or fancy and highly colored decorative marbles. With Clear Plate Glass cretonne, damask or tapestry inserts are used. Prices furnished upon application.

Made to fit all sizes and styles of radiators. All shields made special and orders not subject to cancellation.



No. 464
With Marble Top



No. 462
Super-Metal

***Triton-Shapco Radiator Shields, Super-metal Type,*** are furnished with or without movable dust retainer, as ordered.

Tops of re-enforced steel plate with rounded metal edging.

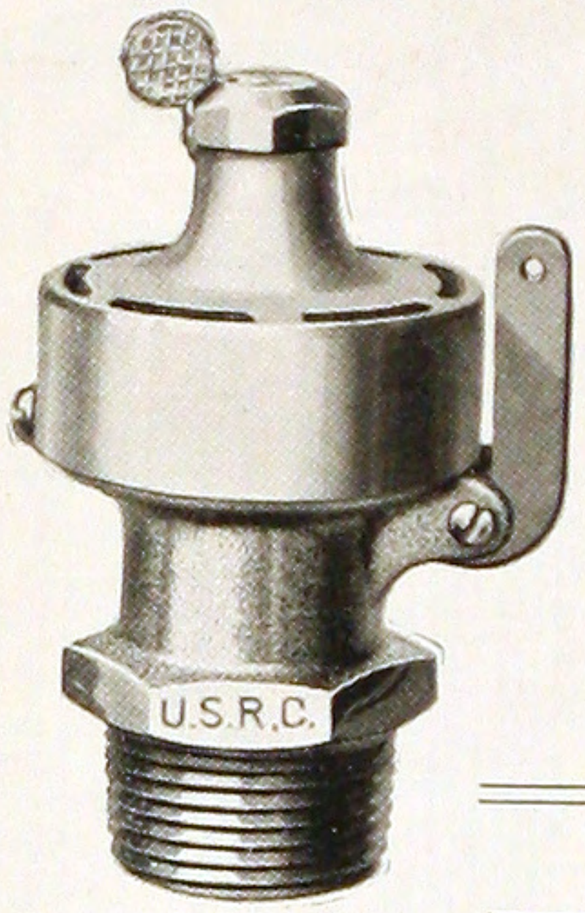
Shields furnished to fit all sizes and types of radiators.

All shields made special, and orders not subject to cancellation.

When ordering give trade name or manufacturer of radiator, height, number of sections, number of columns, width of sections, center to center measurements of sections, and the center to center measurement between the first and last sections.

For Price List and Sizes see Discount Sheet.

## Brass Pop Safety Valves with Iron Base




No. 20

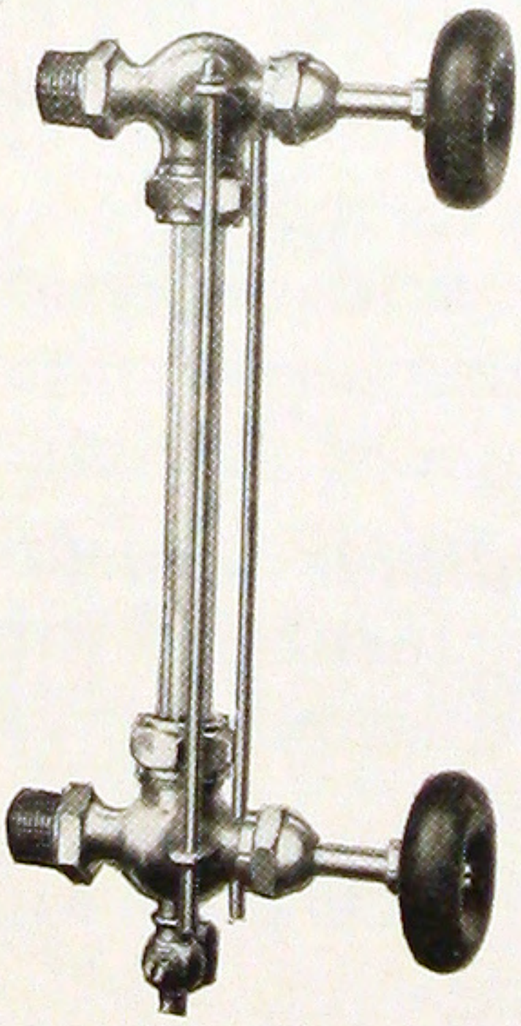
THE No. 20 low pressure pop safety valve is well proportioned and its construction includes all the features necessary to make it reliable and efficient.

Regularly set at 15 pounds.

Supplied drilled for seal without extra cost.

| Size, Inches. | ¾ | 1 | 1 ¼ | 1 ½ | 2 | 2 ½ | 3 | 3 ½ | 4 |
|---|---|---|---|---|---|---|---|---|---|
| Finished Body | $5.25 | $6.00 | $6.75 | $8.25 | $11.25 | $26.00 | $37.50 | $50.00 | $80.00 |

NOTE:—See safety valve data, square boilers, round boilers, engineering booklet.



No. 15

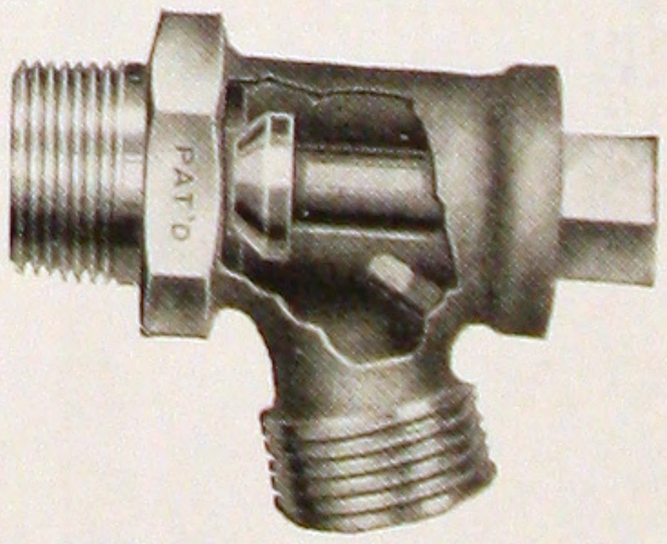
## Brass Water Gauges
### Self-Cleaning with Polished Body

| No. | Wheels | Connections Iron Pipe | Size of Glass | List Per Set |
|---|---|---|---|---|
| 13 | Wood | ½" | ⅝x12 | $4.25 |
| 15 | Wood | ¾" | ¾x16 | 5.50 |

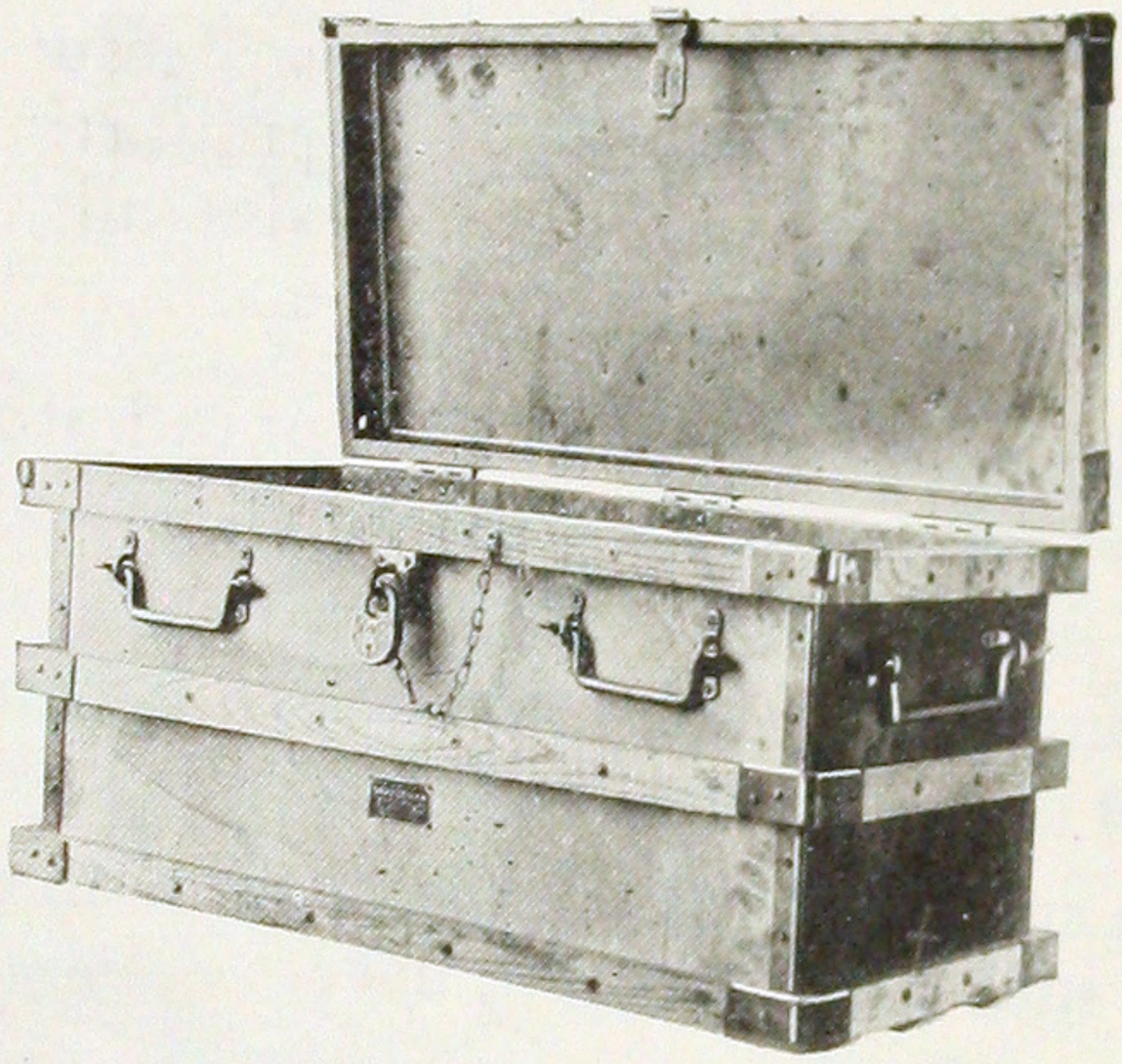
## Capitol Boiler Draw-off Cocks

A PATENTED stop draw-off cock is made so that the plug cannot be removed. Furnished in ½ or ¾-inch sizes, with ¾-inch hose thread connection.

No. 70 ½-inch, list each.....$0.75
No. 71 ¾-inch, list each..... .75




No. 70



## Durable, Roomy, Convenient

MADE from 1-16-inch cold rolled steel with malleable iron corner pieces and hardwood braces; fitted with heavy wrought iron hinges and hasps. Each steel chest is furnished with a first-class lock and two keys and bolts to screw down cover at front corners.

Covers are two inches deep. Measurements of cover are not included in depth of chest.

## Dimensions, Descriptions, and List Prices

| Number | Depth Inches | Width Inches | Length Inches | Description | Weight Pounds | List |
|---|---|---|---|---|---|---|
| 711 | 11 | 12 | 24 | One drawer | 60 | $26.00 |
| 712 | 14 | 15 | 30 | One drawer | 95 | 35.50 |
| 713 | 16 | 17 | 36 | One drawer | 125 | 39.00 |
| 714 | 19 | 20 | 42 | One drawer | 155 | 45.50 |
| 721 | 11 | 12 | 24 | Two drawers | 65 | 30.00 |
| 722 | 14 | 15 | 30 | Two drawers | 100 | 39.00 |
| 723 | 16 | 17 | 36 | Two drawers | 130 | 42.00 |
| 724 | 19 | 20 | 42 | Two drawers | 160 | 47.00 |
| 701 | 11 | 12 | 30 | Without drawer | 70 | 26.00 |
| 702 | 11 | 12 | 36 | Without drawer | 105 | 31.00 |
| 703 | 11 | 12 | 42 | Without drawer | 140 | 36.00 |
| 704 | 11 | 12 | 48 | Without drawer | 180 | 41.50 |

Special sizes and special constructions made to order.

No. 2 Spud

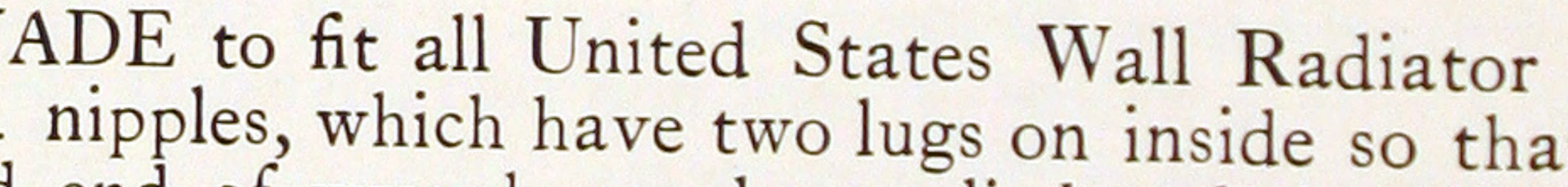
WITH this wrench, connections for radiator valves and elbows can be quickly made tight, without danger of injuring the union.

No. 1 arranged to fit unions on ¾-inch, 1-inch, 1¼-inch and 1½-inch sizes. Price each, list.....$1.00

No. 2 is a special wrench made of semi-steel. Capacity ½-inch to 2 inches. Price each, list.....$2.00

No. 5 Direct Radiator Wrench

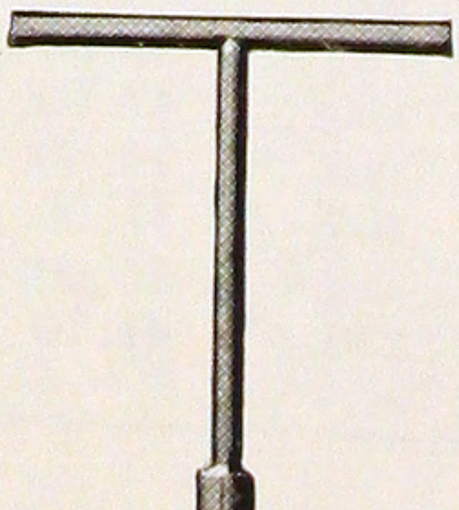
MADE to fit all United States Wall Radiator screw nipples, which have two lugs on inside so that flattened end of wrench can be applied and the nipple unscrewed or tightened. Made in 18-inch, 33-inch and 47-inch lengths. Price each.....$3.50




No. 6 Indirect Radiator Wrench

MADE especially for assembling radiators connected with right and left hand nipples, having hexagon nut in center.

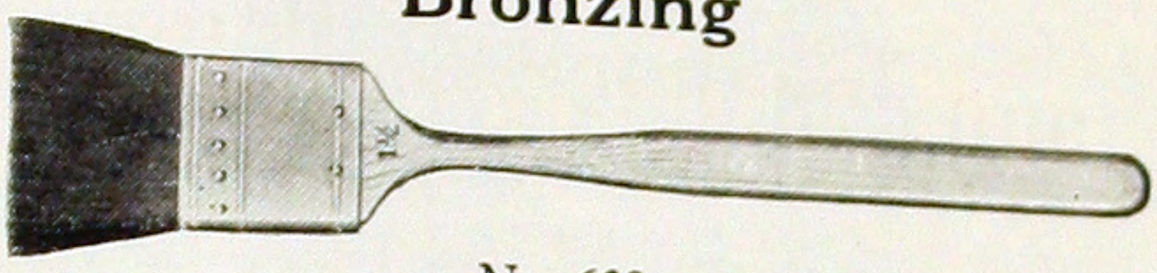
For 1½-inch nipple, list price..... $3.50
For 2-inch nipple, list price.....$3.50



No. 7 Rod Wrench

T-Handle socket wrench ⅜-inch hexagon. For tightening the nuts on assembled radiators. List price, each.....$2.50

## Bronzing

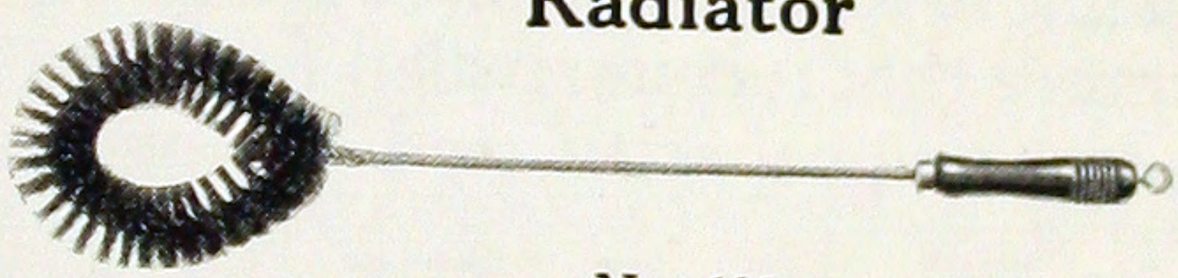


No. 630

CAPITOL Bronzing Brushes have extra long handles, making them most practical for easily bronzing radiators. The bristles are of fine quality, firmly held, especially suited for high grade work.

| | | | |
|---|---|---|---|
| 1-inch, each | $0.40 | 2-inch, each | $0.60 |
| 1½-inch, each | .50 | 2½-inch, each | .70 |

## Radiator

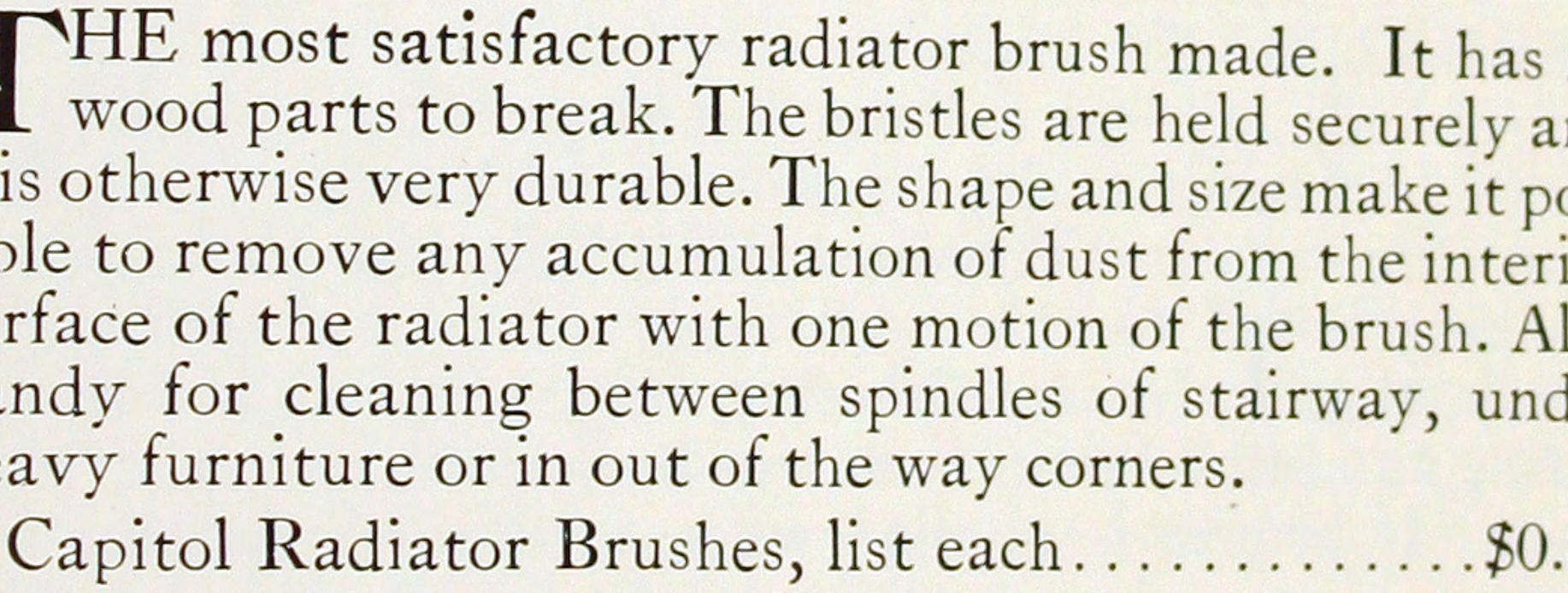


No. 632

THE most satisfactory radiator brush made. It has no wood parts to break. The bristles are held securely and it is otherwise very durable. The shape and size make it possible to remove any accumulation of dust from the interior surface of the radiator with one motion of the brush. Also handy for cleaning between spindles of stairway, under heavy furniture or in out of the way corners.

Capitol Radiator Brushes, list each.....$0.80

## Flue




| Number | Description | Price List |
|---|---|---|
| 1 | Round wire, 3 inches diameter | $1.70 |
| 2 | Round wire, 3 inches diameter, same as No. 1 except with 55-inch flexible wire handle | 2.00 |
| 3 | Flat tempered wire, 2 x 3¼ inches oval sides | 2.20 |
| 4 | Flat tempered wire, 3 x 4 inches oval sides | 2.35 |
| 5 | Double brush, 1¾ x 4½ x 4 inches | 2.50 |
| 6 | 3-inch Sampson Special | 4.20 |
| 7 | Round end, fine wire, 1¼ inches diameter | 1.70 |
| 8 | Round end, fine wire, 1½ inches diameter | 1.70 |
| 9 | Reinforced, rectangular, 7 x 3 x 3 inches | 4.20 |

# CAPITOL BRONZE POWDER


THE Capitol line of radiator bronzes is offered with confident assurance that it is unrivaled for value, rich and brilliant finish, covering capacity, and lasting qualities.

## Directions for Use

BRONZES—Use a bronze primer, or if you want to finish a job quickly, give the radiator first a coat of bronzing liquid; this will dry in about twenty minutes with a gloss, covering up all dirt and rust. Then mix the bronze powder with the bronzing liquid to the consistency of cream and apply evenly, that is, in one direction only. Always use a soft brush, as a stiff brush cuts the bronze ruining the high finish. If bronze is applied when radiator is warm, the lustre is improved.

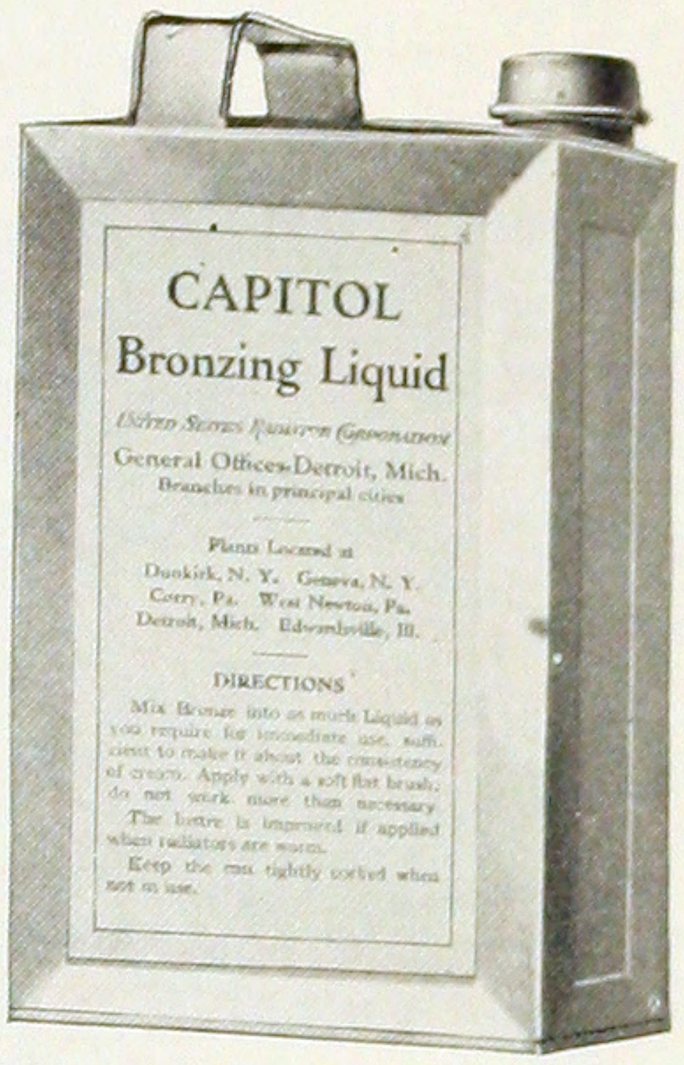
One pound of gold or color bronze requires one quart of liquid and will cover 250 to 300 square feet of radiation. One pound of aluminum bronze requires about one gallon of liquid and will cover from 500 to 600 square feet.

## Capitol Bronze Powders

| | List, Each |
|---|---|
| No. 600 Pale Gold, one-pound cans | $2.00 |
| No. 601 Rich Gold, one-pound cans | 2.00 |
| No. 602 Pure Metal Leaf, one-pound cans | 2.50 |
| (Pure Metal Leaf Bronze is the highest grade of pale gold, unrivaled in brilliancy and permanency of tone and color.) | |
| No. 603 Aluminum, one-pound cans | |
| No. 603 Aluminum, half-pound cans | 2.50 |
| (Aluminum Bronze guaranteed chemically pure.) | |
| No. 604 Green, one-pound cans | 1.75 |
| No. 605 Maroon, one-pound cans | |
| No. 606 Chocolate, one-pound cans | 2.50 |
| No. 607 Copper, one-pound cans | 3.00 |
| No. 608 Fire, one-pound cans | 3.00 |
| | 2.50 |
| | 2.50 |

Other special colors stock No. 609.
To get best results we recommend the use of Capitol Bronzing Liquid.
We can furnish on application, color card showing above and other special colors.

# CAPITOL BRONZING LIQUID




No. 615

A FREE flowing liquid that mixes quickly with gold, aluminum or other bronze powders. Acts as a vehicle for them and a binder to the surface over which they are applied. The color is so light that it has no effect on the most delicate bronze tints, and the body is such that it does not interfere with the lustre of the bronze itself. Easily applied forming a smooth hard surface of lasting durability.

When liquid is not in use, keep can tightly covered, otherwise evaporation takes place, thickening the liquid and making it unusable. Mix only in clean cans. Put up in gallon, half-gallon and quart cans.

Refer to page "42" for amount necessary for mixing with bronze.

## Capitol Bronze Primer

No. 617

ESPECIALLY made for use on radiators, as it does not contain any material of non-radiating nature. It is used as a filler, making a smoother surface and reducing the amount of bronze necessary for the work. Furnished in same size cans as bronzing liquid.

## Capitol Maroon Japan

No. 619

MAKES an attractive finish at a low cost, dries quickly with a high gloss which is not affected by heat. Recommended for use on radiators in public places where durability counts. Supplied in gallon, half-gallon and quart cans.


No. 620

AN air-drying enamel especially made for use on radiators where a hard, heat-resisting, durable finish is required. Will not crack, chip, or shrink, and the colors are permanent.

Supplied in the following colors:

| | |
|---|---|
| WHITE | SILVER GRAY |
| IVORY TINT | FRENCH GRAY |
| GREEN | MAROON |
| BROWN | BLACK |

SPECIAL COLORS TO ORDER

Furnished regularly in gloss finish; also may be had in eggshell (semi-gloss) and flat (state preference when ordering). Put up in one gallon, half-gallon, and quart cans. A gallon will cover approximately 250 square feet of surface.

Enamel should be applied when radiators are cold and heat should not be turned on until it is thoroughly dry. We recommend that all radiators first be given a priming coat. When ordering Enamel Primer state with which color of enamel it is to be used.

## Black Asphaltum

No. 622

FOR painting Boilers, Castings, Steam or Water Pipes, etc. Of great covering capacity and very durable. Put up in one gallon, half-gallon and one quart cans.


No. 641

## Boiler Se-Ment-Ol Liquid

PERMANENTLY repairs cracked boiler sections or leaks of any description in heating systems. For high or low pressure, steel or cast iron. Withstands 200 pounds pressure when heat seasoned. Guaranteed.

## Vinco Certifies Your Heating System

APOSITIVELY harmless insoluble powder that *conquers priming, foaming, surging and slow steaming.* Each minute grain of Vinco absorbs several times its own weight in core sand, oil, rust, and scale. These larger grains of absorbed impurities then settle and are blown out through the bottom, according to directions on each can.


No. 642

### Quantity Required

| | |
|---|---|
| Up to 350 sq. ft. Radiation | 3 lbs. |
| 351 to 600 sq. ft. Radiation | 5 lbs. |
| 601 to 1100 sq. ft. Radiation | 8 lbs. |
| 1101 to 1400 sq. ft. Radiation | 10 lbs. |
| 1401 to 1800 sq. ft. Radiation | 13 lbs. |
| 1801 to 2100 sq. ft. Radiation | 15 lbs. |
| 2101 to 2700 sq. ft. Radiation | 18 lbs. |
| 2701 to 3100 sq. ft. Radiation | 20 lbs. |
| 3101 to 3700 sq. ft. Radiation | 23 lbs. |
| 3701 to 4200 sq. ft. Radiation | 26 lbs. |
| 4201 to 4600 sq. ft. Radiation | 28 lbs. |
| 4601 to 5000 sq. ft. Radiati6n | 30 lbs. |

Vinco is supplied in 5, 10, and 15 lb. cans. List $1.50 per lb.

## Asbestos Plastic Cement

For Boilers, Furnaces, Heaters, Tanks, etc.

No. 80

Price, per 100 lbs.....$3.50

## Asbestos Boiler Putty

No. 81

ESPECIALLY adapted for sealing openings in stoves and cast iron boilers and as a protection for surfaces exposed to a direct fire. Won't shrink or get porous.

| Asbestos Furnace Cement (Boiler Putty) | 1 lb. | 2 lb. | 3 lb. | 4 lb. | 5 to 25 lb. Cans | 50 lb. Pkgs. | 100 to 400lb. Pkgs. |
|---|---|---|---|---|---|---|---|
| List Prices... | $0.18 | $0.17 | $0.16 | $0.15 | $0.14 | $0.13½ | $0.12 |

# *United States Radiator Corporation*

General Offices, Detroit, Michigan

## BRANCH AND SALES OFFICES

| | |
|---|---|
| *Boston | 136 Federal St. |
| *Portland, Me. | 2 Martyr St. |
| *Springfield, Mass. | North Main St. |
| *Providence | Allen's Ave., Foot of Oxford St. |
| *Troy | Center St., Green Island, N. Y. |
| *New Haven | New St. and Railroad Ave. |
| New York | 301 Architects Bldg. |
| *Brooklyn | 65 Forty-fifth St. |
| *Harrison, N. J. | Davis and Central Aves. |
| *Philadelphia | 220 South 16th St. |
| *Baltimore | 1147 Wicomico St. |
| Buffalo | 303 Crosby Bldg. |
| *Rochester, N. Y. | 64 Chester St. |
| Pittsburgh | 1008 Union Bank Bldg. |
| *Cleveland | 523 Guarantee Title Bldg. |
| *Columbus | 174 West Naghton St. |
| *Cincinnati | 1212 Exeter St. |
| Detroit | 517 Dime Savings Bank Bldg. |
| *Chicago | 500 North Dearborn St. |
| *Milwaukee | 168 Corcoran Ave. |
| *Indianapolis | 908 North Senate Ave. |
| *Louisville | 1631 West High St. |
| *Minnesota | 688 Hampden Ave., St. Paul |
| *St. Louis | 4004 Duncan Ave. |
| *Kansas City | 1405 West Eleventh St. |
| *Des Moines | 400 Southwest Ninth St. |
| *Omaha | 1017 North 21st St. |
| *Denver | 2439 Blake St. |
| *Seattle | 1248 First Ave., South |
| *Portland, Ore. | 16th, North and Thurman Sts. |
| *San Francisco | 640 Second St. |

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.—Detroit, Mich. —Dunkirk, N. Y. —Edwardsville, Ill. —Geneva, N. Y.—West Newton, Pa.

CHARLES DANIEL FREY, ADVERTISING, INC., CHICAGO